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ANNUAL REPORT  
of the  
State Board of Health  
OF MARYLAND  
for the  
YEAR ENDING DECEMBER 31, 1914



BALTIMORE:  
KING BROTHERS,  
413 E. Lexington Street,  
1917









ANNUAL REPORT

of the

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OF MARYLAND

for the

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BALTIMORE:  
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# State Department of Health of Maryland, 1914.

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# STATE DEPARTMENT OF HEALTH OF MARY- LAND, 1914 (*Continued*).

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DR. R. B. NORMENT, JR.....	<i>Unassigned</i>
DR. A. MCC. STEVENS.....	<i>Unassigned</i>

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# VITAL STATISTICS, 1914.

## POPULATION, BIRTHS AND DEATHS.

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The efforts of Boards of Health and sanitarians are directed toward increasing the birth rate, diminishing the death rate and increasing the duration of life. As a basis upon which to direct their efforts in the State of Maryland, the tables contained within this report have been devised. All the earlier tables will be maintained and others added from time to time.

All Vital Statisticians use the Census figures of the population. The figures for census years, of course, are most valuable. In inter-census years, the population is computed by the arithmetic method.

The returned mortality in Maryland probably now constitutes over 99% of the total deaths. The reported births probably fall under 95% of the actual births. Maryland statistics show in this respect the deficiency existing in the majority of the American States in the registration of births.

The deaths registered in Maryland during 1914 were, for the Rural Districts, 10,832; in Baltimore City, 10,551; making a total for the State of 21,383.

The births reported for in 1914 were, for the Rural Districts 18,015; for Baltimore City, 12,637; making a total for the State of 30,652, giving an apparent increase in the population of the State of 9,269.

The figures for Maryland during 1913 were: births, 28,381; deaths, 21,048, an increase of 7,333 births over deaths. The 1914 figures show an increase of 2,271 births over those registered during 1913.

### POPULATION OF MARYLAND—1914.

The figures for the population for the inter-census years are estimated by the arithmetic method as advised by the American Public Health Association, and are corrected as of July 1st of each year. The yearly increment is given along with



the figures for each division of the population so that persons wishing the use of figures for this State for any inter-census year may do so without having to estimate them.

The population of Maryland is given in Table I for the male, female, white and colored population of Baltimore City, Rural Maryland and the State of Maryland.

The estimated population, white and colored for the counties appears in Table I-A. The estimated population by ages, without distinction of sex or color, appears in Table XIX.

TABLE I.

## ESTIMATED POPULATION IN MARYLAND FOR THE YEAR 1914.

Maryland.	<i>Population.</i>	<i>Yearly Increment.</i>
Total population. . . . .	1,341,074	10,866.0
White. . . . .	1,109,608	11,161.0
Colored. . . . .	231,466	—295.0
Male. . . . .	667,643	5,564.5
Female. . . . .	673,431	5,301.5
 Baltimore City.		
Total population. . . . .	579,592	5,015.5
White. . . . .	492,210	4,472.8
Colored. . . . .	87,382	542.7
 Rural Districts. -		
Total population. . . . .	761,482	5,850.5
White. . . . .	617,398	6,688.2
Colored. . . . .	144,084	—837.7

	<i>White Population.</i>	<i>Yearly Increment.</i>	<i>Colored Population.</i>	<i>Yearly Increment.</i>
Maryland.				
Males. . . . .	552,917	5,666.1	114,726	—101.6
Females. . . . .	556,691	5,494.9	116,740	—193.4
 Baltimore City.				
Males. . . . .	237,795	2,133.6	41,018	389.5
Females. . . . .	254,415	2,339.2	46,364	153.2
 Rural Districts.				
Males. . . . .	315,122	3,532.5	73,708	—491.1
Females. . . . .	302,276	3,155.7	70,376	—346.6

TABLE I-A.

## ESTIMATED POPULATION OF MARYLAND FOR THE YEAR 1914.

<i>County.</i>	<i>White.</i>		<i>Colored.</i>		<i>Total.</i>	
	<i>Popula- tion.</i>	<i>Incre- ment.</i>	<i>Popula- tion.</i>	<i>Incre- ment.</i>	<i>Popula- tion.</i>	<i>Incre- ment.</i>
<i>Allegany. . . . .</i>	64,675	+898.6	1,451	—15.9	66,126	+882.7
<i>Anne Arundel. . . .</i>	25,890	+117.5	13,634	—124.2	39,524	—6.7
<i>Baltimore. . . . .</i>	122,778	+3,099.7	13,035	+99.6	135,813	+3,199.3
<i>Calvert. . . . .</i>	5,364	+20.1	5,004	—9.8	10,368	+10.3
<i>Caroline. . . . .</i>	15,457	+244.9	5,023	+55.7	20,480	+300.6
<i>Carroll. . . . .</i>	32,008	+20.7	1,958	—13.2	33,966	+7.5
<i>Cecil. . . . .</i>	20,244	—43.0	3,130	—48.4	23,374	—91.4
<i>Charles. . . . .</i>	7,727	—20.3	8,115	—108.9	15,842	—129.2
<i>Dorchester. . . . .</i>	19,575	+78.1	9,395	—6.5	28,970	+71.6
<i>Frederick. . . . .</i>	47,855	+138.4	5,139	—62.2	52,994	+76.2
<i>Garrett. . . . .</i>	21,031	+245.4	99	—1.9	21,130	+243.5
<i>Harford. . . . .</i>	23,036	+44.4	4,800	—75.1	27,836	—30.7
<i>Howard. . . . .</i>	12,342	+2.3	3,505	—64.0	15,847	—61.7
<i>Kent. . . . .</i>	10,562	—55.5	5,616	—129.7	16,178	—185.2
<i>Montgomery. . . . .</i>	23,891	+248.4	8,896	—82.5	32,787	+165.9
<i>Prince George's. . .</i>	27,512	+681.8	11,298	—49.0	38,810	+632.8
<i>Queen Anne's. . . .</i>	10,610	—98.0	5,579	—56.4	16,189	—154.4
<i>Somerset. . . . .</i>	17,230	+59.8	9,452	—6.0	26,682	+53.8
<i>St. Mary's. . . . .</i>	10,067	+81.0	6,898	—96.4	16,965	—15.4
<i>Talbot. . . . .</i>	12,826	—3.4	6,486	—69.7	19,312	—73.1
<i>Washington. . . . .</i>	49,566	+491.6	1,962	—37.6	51,528	+454.0
<i>Wicomico. . . . .</i>	21,988	+352.5	6,516	+48.8	28,504	+401.3
<i>Worcester. . . . .</i>	15,164	+83.2	7,093	+15.6	22,257	+98.8
<i>Total. . . . .</i>	617,398	+6,688.2	144,084	—837.7	761,482	+5,850.5
<i>Baltimore City. . .</i>	492,210	+4,472.8	87,382	+542.7	579,592	+5,015.5
<i>Total Maryland. . .</i>	1,109,608	+11,161.0	231,466	—295.0	1,341,074	+10,866.0

## BIRTHS IN MARYLAND.

The number of births recorded in the State of Maryland during 1914, was 30,652, of which 18,015 were reported from the Rural Districts, and 12,637 from Baltimore City.

The number of white births reported was 24,881. The number of colored births reported was 5,771.

The total number of male births, 15,719; of female births, 14,933.

Table II gives the birth rates per thousand of population for Baltimore City, the Rural Districts and the State of Maryland, for the years 1905 to 1914, inclusive. The birth rate for Baltimore City was 21.80 for the year 1914, for the Rural Districts 23.66, and for the entire State 22.86. The increase in the year 1912 for both the Rural Districts and Baltimore City was due to the new registration law which went into effect on July 1st of that year.

TABLE II.

BIRTH RATES, MARYLAND, 1905-1914.

<i>Year</i>	<i>Birth Rates Rural Districts.</i>	<i>Birth Rates Baltimore City.</i>	<i>Birth Rates Maryland.</i>
1905.....	13.15	16.75	14.70
1906.....	13.72	16.87	15.08
1907.....	12.97	16.09	14.31
1908.....	14.07	16.70	15.20
1909.....	14.80	15.86	15.26
1910.....	14.51	17.62	15.85
1911.....	14.20	16.44	15.17
1912.....	17.64	20.01	18.67
1913.....	20.96	21.83	21.34
1914.....	23.66	21.80	22.86

In Table III and III-A the births, deaths and increase are given by counties for the whole population, and separately for white and colored races; also the birth rate, death rate, and rate of increase per 1,000 of the population (as estimated from the United States Census figures for 1910).

TABLE III.

BIRTH RATES, DEATH RATES AND RATE OF INCREASE—1914.

Counties.	White.			Colored.			Total.		
	Births Per 1,000	Deaths Per 1,000	Inc. or Dec. Per 1,000	Births Per 1,000	Deaths Per 1,000	Inc. or Dec. Per 1,000	Births Per 1,000	Deaths Per 1,000	Inc. or Dec. Per 1,000
Allegany.....	27.44	13.08	+14.36	26.88	30.32	-3.44	27.43	13.46	+13.97
Anne Arundel.....	27.11	15.60	+13.51	26.99	27.36	-0.37	27.07	18.34	+8.73
Baltimore.....	20.16	14.14	+6.02	17.64	18.41	-0.77	19.92	14.55	+5.37
Calvert.....	26.47	10.63	+15.85	36.17	16.99	+19.18	31.15	13.70	+17.45
Caroline.....	21.37	12.29	+9.58	28.07	18.32	+9.75	23.39	13.77	+9.62
Carroll.....	21.24	15.09	+6.15	19.92	22.47	-2.55	21.17	15.52	+5.65
Cecil.....	19.96	12.45	+7.51	18.21	30.03	-11.82	19.72	14.80	+4.92
Charles.....	28.73	11.78	+16.95	37.71	22.43	+15.28	33.33	17.23	+16.10
Dorchester.....	24.93	12.57	+12.36	32.14	24.59	+7.55	27.27	16.47	+10.80
Frederick.....	24.03	14.44	+9.59	17.32	18.10	-0.78	23.38	14.79	+8.59
Garrett.....	27.10	7.46	+19.64	0.00	20.20	-20.20	26.97	7.52	+19.45
Harford.....	18.36	11.50	+6.86	18.75	18.54	+0.21	18.43	12.72	+5.71
Howard.....	21.80	9.97	+11.83	32.24	18.83	+13.41	24.11	11.93	+12.18
Kent.....	18.08	10.23	+7.85	27.24	21.55	+5.69	21.26	14.15	+7.11
Montgomery.....	18.96	9.29	+9.67	26.41	15.51	+10.90	20.98	10.98	+10.00
Prince George's.....	22.14	9.09	+13.05	27.17	16.55	+10.62	23.60	11.26	+12.34
Queen Anne's.....	23.85	13.10	+10.75	25.27	22.41	+2.86	24.34	16.31	+8.03
Somerset.....	22.93	12.31	+10.62	24.12	16.72	+7.40	23.35	13.87	+9.48
St. Mary's.....	24.63	11.13	+13.50	29.14	16.67	+12.47	26.47	13.38	+13.09
Talbot.....	20.97	13.41	+7.56	25.59	22.51	+3.08	22.52	16.47	+6.05
Washington.....	28.27	13.64	+14.63	17.84	25.99	-8.15	27.87	14.11	+13.76
Wicomico.....	21.51	14.33	+7.18	24.09	19.18	+4.91	22.10	15.44	+6.66
Worcester.....	18.93	12.40	+6.53	31.16	20.87	+10.29	22.82	15.10	+7.72
Total Counties.....	23.03	12.78	+10.25	26.37	20.47	+5.90	23.66	14.22	+9.44
Baltimore City.....	21.67	16.08	+5.59	22.57	30.18	-7.61	21.80	18.20	+3.60
Maryland.....	22.42	14.24	+8.18	24.93	24.13	+0.80	22.86	15.94	+6.92



TABLE III-A.  
BIRTHS, DEATHS AND INCREASE OF POPULATION—1914.

Counties.	White.			Colored.			Total.		
	Births.	Deaths.	Inc. or Dec.	Births.	Deaths.	Inc. or Dec.	Births.	Deaths.	Inc. or Dec.
Allegany.....	1,775	846	+929	39	44	-5	1,814	890	+924
Anne Arundel.....	702	352	+350	368	373	-5	1,070	725	+345
Baltimore.....	2,475	1,736	+739	230	240	-10	2,705	1,976	+729
Calvert.....	142	57	+85	181	85	+96	323	142	+181
Caroline.....	338	190	+148	141	92	+49	479	282	+197
Carroll.....	680	483	+197	39	44	-5	719	527	+192
Cecil.....	404	252	+152	57	94	-37	461	346	+115
Charles.....	221	91	+130	306	182	+124	527	273	+254
Dorchester.....	488	246	+242	302	231	+71	790	477	+313
Frederick.....	1,150	691	+459	89	93	-4	1,239	784	+455
Garrett.....	570	157	+413	0	2	-2	570	159	+411
Harford.....	423	265	+158	90	89	+1	513	354	+159
Howard.....	269	123	+146	113	66	+47	382	189	+193
Kent.....	191	108	+83	153	121	+32	344	229	+115
Montgomery.....	453	222	+231	235	188	+97	688	360	+328
Prince George's.....	609	250	+359	307	187	+120	916	437	+479
Queen Anne's.....	253	139	+114	141	125	+16	394	264	+130
Somerset.....	395	212	+183	228	158	+70	623	370	+253
St. Mary's.....	248	112	+136	201	115	+86	449	227	+222
Talbot.....	289	172	+97	166	146	+20	435	318	+117
Washington.....	1,401	676	+725	35	51	-16	1,436	727	+709
Wicomico.....	473	315	+158	157	125	+32	630	440	+190
Worcester.....	287	188	+99	221	148	+73	508	336	+172
Total Counties.....	14,216	7,883	+6,333	3,799	2,949	+850	18,015	10,832	+7,183
Baltimore City.....	10,665	7,914	+2,751	1,972	2,637	-665	12,637	10,551	+2,086
Maryland.....	24,881	15,797	+9,084	5,771	5,586	+185	30,652	21,383	+9,269

By reference to the part of the table dealing with birth rates, death rates and rates of increase per thousand, on page 5, a comparison may be made of the efficiency of registration in the various counties of Maryland. According to the report of the Registrar General of England, the birth rate per 1,000 for England and Wales for the year 1912 was 23.8; for France, 19.0; Ireland, 23.0; Italy, 32.4; Hungary, 36.3; and for the German Empire 28.6. There are no available figures which give accurately the birth rates of American States. The birth rate per 1,000 for Maryland probably lies between the figures 24 and 27. It can be assumed therefore, that returns from any of the counties of Maryland, which are below 20 per 1,000, indicate defective returns, and a birth rate of 15 or less means very defective returns. In classifying the counties according to this standard, we find 20 counties in 1914 which return birth rates of over 20. Of these twenty, eight return a birth rate of 25 or over, and, of the remaining twelve, six give a birth rate of over 23 per 1,000. The three counties giving defective returns, *i. e.*, between 15 and 20, are Baltimore county with a birth rate of 19.92 per 1,000, Cecil county with a rate of 19.72 per 1,000 and Harford county with a birth rate of 18.43 per 1,000. These three counties have always given returns considerably below what would be expected of them. In contrast it is interesting to note the progress of several of the counties which four years ago had such defective returns that they could not be properly included in the tables. Garrett county which now gives a birth rate of 26.97 per 1,000, Somerset county which gives a birth rate of 23.35 per 1,000 and St. Mary's county which now gives a birth rate of 26.47 per 1,000 have within four years climbed from the foot of the list to the top.

The death rate exceeds 15 per 1,000 in eight counties. The lowest death rate is in Garrett county, 7.52 per 1,000. This county has almost entirely a white population and its returns to this office are good. The death rate here given we believe is correct. Garrett county has had a low death rate for several years. At an earlier date, when we knew that the returns of births was not complete, we were doubtful about the fullness of death returns. Now, however, this county is giving a return of births of 26.97 per 1,000 of population, and we have not had to prosecute a single person in that county for the

past three years for burying a body without first obtaining a burial permit.

Table IV gives a summary of the births, birth rates, deaths, death rates, and excess of births over deaths per thousand among male, female, white and colored for the total population of the Rural Districts and of Baltimore City. The birth rates and death rates per 1,000 are calculated both in relation to the total population and to the four divisions of population, male, female, white and colored.

TABLE IV.

## BIRTHS, DEATHS AND RATES—MARYLAND (1914) SUMMARY.

<i>Births.</i>	<i>Male.</i>	<i>Female.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>
Rural Districts. . . . .	9,277	8,738	14,216	3,799	18,015
Baltimore City. . . . .	6,442	6,195	10,665	1,972	12,637
Maryland. . . . .	15,719	14,933	24,881	5,771	30,652
<i>Deaths.</i>					
Rural Districts. . . . .	5,796	5,036	7,883	2,949	10,832
Baltimore City. . . . .	5,587	4,964	7,914	2,637	10,551
Maryland. . . . .	11,383	10,000	15,797	5,586	21,383
<i>Birth Rate (Computed on Total Populations).</i>					
Rural Districts. . . . .	12.18	11.48	18.67	4.99	23.66
Baltimore City. . . . .	11.11	10.69	18.40	3.40	21.80
Maryland. . . . .	11.72	11.14	18.55	4.31	22.86
<i>Death Rate (Computed on Total Populations).</i>					
Rural Districts. . . . .	7.61	6.61	10.35	3.87	14.22
Baltimore City. . . . .	9.64	8.56	13.65	4.55	18.20
Maryland. . . . .	8.49	7.45	11.78	4.16	15.94
<i>Difference Between Birth Rate and Death Rate.</i>					
Rural Districts. . . . .	+4.57	+4.87	+8.32	+1.12	+9.44
Baltimore City. . . . .	+1.47	+2.13	+4.75	-1.15	+3.60
Maryland. . . . .	+3.23	+3.69	+6.77	+0.15	+6.92
<i>Birth Rate (Computed on Specific Groups of Population).</i>					
Rural Districts. . . . .	23.86	23.45	23.03	26.37	23.66
Baltimore City. . . . .	23.11	20.60	21.67	22.57	21.80
Maryland. . . . .	23.54	22.17	22.42	24.93	22.86
<i>Death Rate (Computed on Specific Groups of Population).</i>					
Rural Districts. . . . .	14.91	13.51	12.77	20.47	14.22
Baltimore City. . . . .	20.04	16.50	16.08	30.18	18.20
Maryland. . . . .	17.05	14.85	14.24	24.13	15.94

TABLE IV—*Continued.*

## BIRTHS, DEATHS AND RATES—MARYLAND (1914) SUMMARY.

*Difference Between  
Birth Rate and Death  
Rate.*

	<i>Male.</i>	<i>Female.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>
Rural Districts. . . . .	+8.95	+9.94	+10.26	+5.90	+9.44
Baltimore City. . . . .	+3.07	+4.10	+5.59	—7.61	+3.60
Maryland. . . . .	+6.49	+7.32	+8.18	+0.80	+6.92

The succeeding tables (Tables V and VI) give births and still-births for the Rural Districts of Maryland and Baltimore City.

For the State, there were registered in 1914, 30,652 living births, and 2,148 still-births, a proportion of 7.01 per cent. of all births still-born.

In Table V the male and female births are given by months, with the corresponding months of conception.

The greatest number of living births in the Rural Districts was recorded in September (1,670), the corresponding period of conception being the month of December.

During 1913 the maximum number of births occurred during the month of August (1,439).

The highest figures next in order were for the months of August (1,582) and March (1,556), corresponding to the months of conception of November and June.

The minimum number of births during 1914 occurred in February (1,360). During 1913, February also furnished the minimum number of births.

The greatest number of male births occurred in September (837). The greatest number during 1913 also occurred in September (743). The greatest number of female births occurred in September (833). The greatest number in 1913 occurred in August (716). The male births exceeded the female births in every month except January and May. During January there were 772 male births and 783 female births. There is usually one month during the year in which the female births exceed the male. This has occurred for a number of years except in the year 1912. In that year the male births exceeded the female births in every month.

Table VI (still-births), shows practically no seasonal variation, the fluctuation being proportionate only to the number of total births.



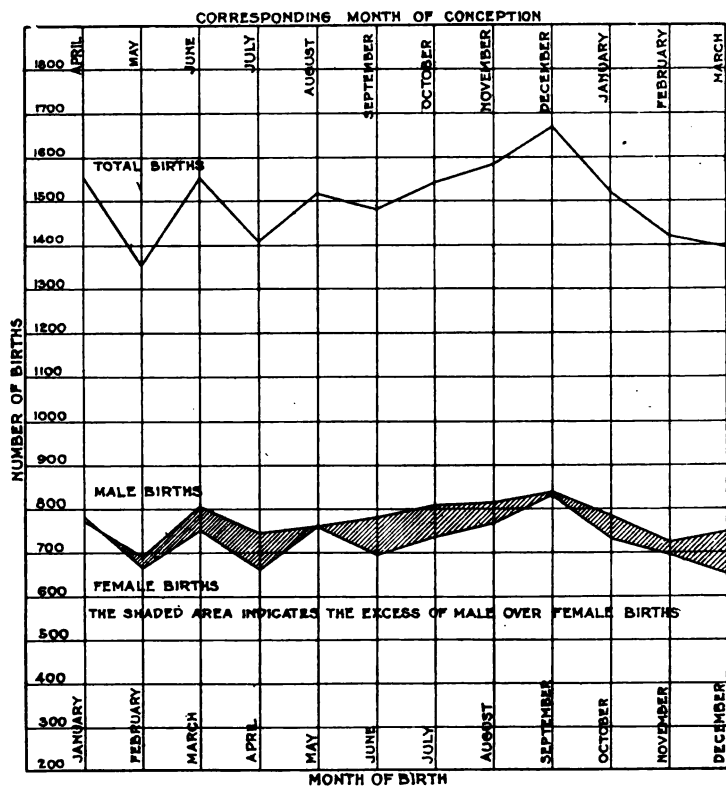


CHART 1—Births by Months, Male, Female and Total—Rural Maryland,  
1914.

TABLE V.

BIRTHS, MALE AND FEMALE, BY MONTHS—RURAL DISTRICTS, 1914.

<i>Month of Birth.</i>	<i>Corresponding Month of Conception.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>
January.....	April.....	772	783	1,555
February.....	May.....	696	664	1,360
March.....	June.....	805	751	1,556
April.....	July.....	747	662	1,409
May.....	August.....	760	760	1,520
June.....	September.....	782	698	1,480
July.....	October.....	807	736	1,543
August.....	November.....	812	770	1,582
September.....	December.....	837	833	1,670
October.....	January.....	788	733	1,521
November.....	February.....	724	698	1,422
December.....	March.....	747	650	1,397
Total.....		9,277	8,738	18,015

7 cases where sex was unknown.

TABLE VI.

STILL BIRTHS—MARYLAND, 1914.

<i>Month.</i>	<i>White.</i>			<i>Colored</i>			<i>Total</i>
	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>	<i>Male.</i>	<i>Female.</i>	<i>Total.</i>	<i>White &amp; Col'd.</i>
January.....	34	26	60	24	11	35	95
February.....	35	24	59	22	15	37	96
March.....	41	24	65	18	8	26	91
April.....	24	25	49	16	21	37	86
May.....	25	22	47	21	16	37	84
June.....	30	16	46	23	16	39	85
July.....	46	17	63	21	9	30	93
August.....	28	25	53	18	10	28	81
September.....	21	25	46	10	8	18	64
October.....	35	25	60	24	15	39	99
November.....	50	20	70	21	17	38	108
December.....	73	27	100	24	16	40	140
Total Counties..	442	276	718	242	162	404	1,122
Baltimore City..	414	196	610	255	161	416	1,026
Total Maryland.	856	472	1,328	497	323	820	2,148

Number of Twins..... 20

Sex Unknown..... 87

Number of Illegitimates..... 129

The succeeding table (Table VII) gives illegitimate births by counties. These figures include probably all of the returns of white illegitimates and a large number of the colored illegitimates; but, owing to the peculiar martial relations of the colored race, it is difficult to establish a standard of legitimacy for children born of colored parents. Ecclesiastical marriages are not performed for a large proportion of colored persons who are living as man and wife. In 1914 the proportion of illegitimates in both the white and colored populations has shown an enormous increase. In 1913, among the whites in Rural Districts there were 10.45 illegitimates per 1,000 births and in 1914, 18.71. In the colored population, Rural Districts, in 1913 there were 66.16 illegitimates per 1,000 births and in 1914, 182.15 per 1,000 births. It is not probable that this is an actual increase in illegitimacy in the past year. With our demand for more perfect registration, these cases which physicians were formerly loath to register are now being returned regularly.

TABLE VII.

<i>County.</i>	ILLEGITIMATE BIRTHS, 1914.			<i>Total Births</i>	<i>Illegitimate Births per 1,000 of Births.</i>
	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>		
Allegany. . . . .	35	3	38	1,814	20.95
Anne Arundel. . . . .	9	59	68	1,070	63.55
Baltimore. . . . .	34	38	72	2,705	26.62
Calvert. . . . .	1	34	35	323	108.36
Caroline. . . . .	9	41	50	479	104.38
Carroll. . . . .	10	10	20	719	27.82
Cecil. . . . .	11	12	23	461	49.89
Charles. . . . .	6	42	48	527	91.08
Dorchester. . . . .	5	66	71	790	89.87
Frederick. . . . .	24	19	43	1,239	34.71
Garrett. . . . .	13	0	13	570	22.81
Harford. . . . .	6	20	26	513	50.68
Howard. . . . .	6	14	20	382	52.36
Kent. . . . .	4	35	39	344	113.37
Montgomery. . . . .	8	47	55	688	79.94
Prince George's. . . . .	8	32	40	916	43.67
Queen Anne's. . . . .	3	25	28	394	71.07
Somerset. . . . .	9	38	47	623	75.44
St. Mary's. . . . .	3	33	36	449	80.18
Talbot. . . . .	4	55	59	435	135.63
Washington. . . . .	41	4	45	1,436	31.34
Wicomico. . . . .	5	19	24	630	38.10
Worcester. . . . .	12	46	58	508	114.17
Total. . . . .	266	692	958	18,015	53.18
Baltimore City. . . . .	300	432	732	12,637	57.93
Total Maryland. . . . .	566	1,124	1,690	30,652	55.14

TABLE VIII.  
PERCENTAGE OF NATIVE AND FOREIGN BORN PARENTS OF CHILDREN BORN  
IN THE COUNTIES OF MARYLAND DURING 1914.

Counties.	Native.				Foreign.			
	Both	One	Neither	Total	Both	Father	Mother	Total
	Maryland.	Maryland.	Maryland.	Natives.	Foreign.	Foreign.	Foreign.	Foreign.
Allegany.....	45.98	26.90	16.37	89.25	6.01	3.36	1.32	10.69
Anne Arundel. . .	64.77	10.47	5.98	81.22	14.11	3.55	1.03	18.69
Baltimore.....	68.95	13.38	5.40	85.73	7.65	4.14	2.40	14.19
Calvert.....	95.67	3.72	0.00	99.39	0.31	0.00	0.31	0.62
Caroline.....	65.34	20.46	9.60	95.40	2.71	1.46	0.42	4.59
Carroll.....	81.36	12.52	3.34	97.22	1.53	0.56	0.42	2.51
Cecil.....	60.52	25.60	8.67	94.79	3.25	1.08	0.87	5.20
Charles.....	87.67	8.54	2.09	98.30	1.33	0.38	0.38	1.71
Dorchester.....	89.11	8.61	0.63	98.35	0.63	0.63	0.38	1.64
Frederick.....	80.55	9.85	8.39	98.79	0.32	0.48	0.32	1.12
Garrett.....	49.30	33.51	13.86	96.67	2.46	0.35	0.35	3.16
Harford.....	73.88	15.79	5.07	94.74	2.92	1.36	0.97	5.25
Howard.....	78.27	14.14	4.19	96.60	1.05	1.57	0.79	3.41
Kent.....	83.43	12.21	2.03	97.67	0.87	1.16	0.29	2.32
Montgomery.....	68.75	17.01	11.05	96.81	1.74	0.87	0.58	3.19
Prince George's.....	58.08	18.34	17.79	94.21	2.95	1.86	0.76	5.57
Queen Anne's.....	85.28	11.68	1.52	98.48	0.51	1.02	0.00	1.53
Somerset.....	82.50	13.64	3.21	99.35	0.32	0.16	0.00	0.48
St. Mary's.....	89.31	6.46	0.67	96.44	2.45	0.22	0.22	2.89
Talbot.....	80.92	11.95	3.91	96.78	0.69	1.61	0.92	3.22
Washington.....	55.15	26.18	15.67	97.00	1.25	1.11	0.56	2.92
Wicomico.....	75.24	19.05	5.24	99.53	0.16	0.16	0.16	0.48
Worcester.....	75.20	16.93	5.51	97.64	0.20	1.57	0.39	2.16
Total.....	69.33	16.44	7.97	93.74	3.53	1.78	0.86	6.17
								0.09

In the preceding table (Table VIII) the nationality of parents of children born in Maryland during 1914 is returned in six columns. In the sub-columns the native and foreign born parents are considered separately. In the column headed "Neither Maryland," the American born parents are included, both born in the United States, but neither a native of Maryland. The foreign column is in three sub-divisions, in the first of which are included parents, both of whom are of foreign birth; and second, father foreign; and third, mother foreign. By reference to this column, it will be seen that the largest proportion of native parents occurred in Wicomico county, 99.53%. The greatest proportion of foreign parents was in Anne Arundel county, 18.69%. Baltimore county was next in order with 14.19%. In three counties the proportion of native born parents exceeded 99%, Calvert, Somerset and Wicomico. In Calvert county 95.67% of the parents of children born in 1914 were both natives of Maryland and over 80% of the parents of children born in Carroll, Charles, Dorchester, Frederick, Kent, Queen Anne's, Somerset, St. Mary's and Talbot counties were both natives of this State. In the Rural Districts at large there were 93.74% of the parents native of the United States, and 6.17% foreign born. In Allegany county a large proportion of the percentage returned in total foreign were Anglo-Saxon, being natives of Wales, England and Scotland. The highest percentage of both parents foreign was in Anne Arundel county, 14.11% and the highest percentage of mothers foreign was in Baltimore county, 2.40%. In Baltimore county 4.14% of the fathers were foreign born.

#### FECUNDITY.

Under the title of "Fecundity" is included a review of the fecundity rates and the maximum fecundities by counties in the white and colored populations. Along with these we place the tables showing maximum and minimum ages of parents, by counties and by color, and the average age of parents.

TABLE IX.

TABLE OF FECUNDITY FOR WHITE AND COLORED MOTHERS BY AGE PERIODS.  
15-50 YEARS, 1914.

<i>White.</i>								
<i>Ages of Mothers.</i>	<i>No. of Mothers.</i>	<i>Total No. of Children Born.</i>	<i>Total No. of Child. Living.</i>	<i>Total Child. Per Mother.</i>	<i>Living Child. Per Mother.</i>	<i>Total Child. Per 10,000 of Female Population.</i>	<i>Living Child. Per 10,000 of Female Population.</i>	<i>Estimated Female Population.</i>
10-15	5	5	5	1.00	1.00	1.57	1.57	31,890
15-20	1,310	1,637	1,539	1.25	1.17	554.32	521.13	29,532
20-25	4,028	7,735	7,024	1.92	1.74	2,927.82	2,658.69	26,419
25-30	3,526	10,823	9,635	3.07	2.73	4,561.09	4,060.43	23,729
30-35	2,668	11,984	10,450	4.49	3.92	5,483.41	4,781.51	21,855
35-40	1,802	10,902	9,348	6.05	5.19	5,288.38	4,534.56	20,615
40-45	758	5,775	4,808	7.62	6.34	3,293.98	2,742.41	17,532
*45-50	80	708	613	8.85	7.66	471.28	408.04	15,023
Unknown.	39	110	105	2.82	2.69	.....	.....	151
Total..	14,216	49,679	43,527	3.49	3.06	2,660.24	2,330.81	186,746
<i>Colored.</i>								
10-15	23	23	21	1.00	0.91	25.90	23.65	8,881
15-20	730	996	902	1.36	1.24	1,315.37	1,191.23	7,572
20-25	1,048	2,827	2,287	2.69	2.18	4,590.78	3,713.87	6,158
25-30	715	3,272	2,658	4.58	3.72	6,274.21	5,096.84	5,215
30-35	593	3,713	2,971	6.26	5.01	8,882.78	7,107.66	4,180
35-40	472	4,012	3,098	8.50	6.56	9,845.40	7,602.45	4,075
40-45	159	1,541	1,230	9.69	7.73	4,496.64	3,589.15	3,427
*45-50	28	266	209	9.50	7.46	895.62	703.70	2,970
Unknown.	31	149	108	4.81	3.48	.....	.....	141
Total..	3,799	16,799	13,484	4.42	3.55	3,941.67	3,163.85	42,619

\*Includes a few mothers whose ages were over 50 years.

In order to ascertain the fecundity rates of the child-bearing portion of the population, Table IX has been devised. This table is particularly valuable for its comparative purposes; giving the rates per 10,000 for both white and colored populations. The mother's ages range between 10 and 50 years. There were no births reported of mothers under ten years while there were a few births reported of mothers over fifty. These were disregarded because they were so few as to be of no value in the table.

In the white race the period of greatest fecundity is between 30 and 35 years, giving a rate of 5,483.4 children born for

every ten thousand of female population living in this age-period. Of the total number born to these mothers there were living, in the year 1914, 4,781.5 per 10,000 of female population. The rates rise progressively in each age period from 10-15 years up to the period of 30-35. After that there is a rapid decline to the period between 45 and 50 years.

In the colored female population there is a rapid rise which reaches its maximum in the period between 35 and 40 years (9,845.4 children born per 10,000 female population) and, from this period, the decline is more rapid than in the white population.

Comparing the rates in the white and colored population the superior fecundity of the colored race becomes evident. In the very earliest period, 10-15 years, the fecundity rate in colored mothers is about sixteen times that of white mothers. In the second quinquennial period, 15-20, it is about two and a half times that of white mothers. From there on it ranges between 1.5 and 2 times that of the white race. It is interesting to note that the highest proportionate differences are found in the early periods (10-15 and 15-20). The period of maximum fecundity in the colored race occurs five years later (35-40) than in the white race (30-35).

By comparing the columns marked "Total children per 10,000" and "Living children per 10,000," in the white and colored population, the much higher death rate among colored children is at once seen. In spite of superior fecundity of colored mothers the rates per 10,000 of living children are not so superior to those of the white race as one would be led to believe by comparing fecundity rates for all children born. The total fecundity rate in the white population, per 10,000 of females, was 2660.2; and the total children living, per 10,000, was 2330.8. In the colored population the total rate per 10,000 was 3941.6, and the rate for living children, per 10,000, in 1914, was 3163.8.

Chart 2 shows the fecundity rates for total children born and total children living per 10,000 of female population, white and colored in 1914. This chart demonstrates at a glance the superior fecundity of the colored race as well as the high proportionate mortality of colored children during the child-bearing periods of their mothers.

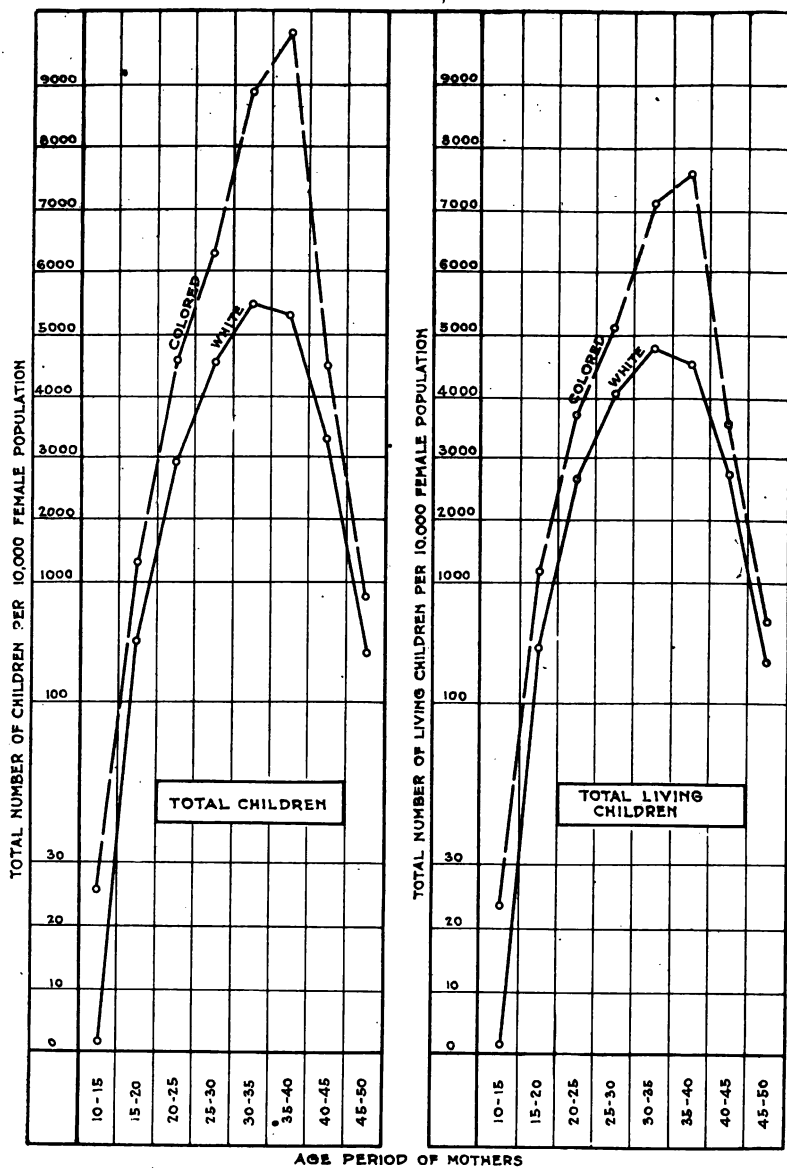


CHART 2.



The succeeding table (Table X) gives figures of maximum fecundity in the Rural Districts during 1914.

In the succeeding table only children in excess of the tenth during 1914 are considered. Of these there were 310 white and 236 colored, a total of 546. The percentage of all births being: white, 1.72%; colored, 1.31%; total, 3.03%.

Twin births occurred in the white population 186 times and in the colored population 74 times. There were also three triple births, two in the white population and one in the colored population.

TABLE X.

TABLE OF MAXIMUM FECUNDITY—NUMBER OF CHILD IN EXCESS OF TENTH  
BORN IN MARYLAND, EXCLUSIVE OF BALTIMORE CITY—1914.

County.		11	12	13	14	15	16	17	18	19	20	21	22	Total	Twins	Trip-lets.
Allegany. . . . .	W. . . . .	13	5	7	1	1	2	..	..	..	..	..	..	29	25	..
	C. . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Anne Arundel. . . . .	W. . . . .	6	1	2	3	..	..	..	1	..	..	..	..	13	8	..
	C. . . . .	11	6	4	2	1	1	..	1	1	1	..	..	28	10	..
Baltimore. . . . .	W. . . . .	15	20	7	5	2	4	1	..	..	..	..	1	55	26	..
	C. . . . .	6	2	2	2	..	1	..	..	..	..	..	..	13	4	..
Calvert. . . . .	W. . . . .	..	1	..	..	..	..	..	..	..	..	..	..	1	3	..
	C. . . . .	5	5	4	5	2	..	..	..	..	..	..	..	21	2	..
Caroline. . . . .	W. . . . .	1	..	..	..	..	..	..	..	..	..	..	..	1	2	..
	C. . . . .	..	3	3	..	..	..	..	..	..	..	..	..	6	1	..
Carroll. . . . .	W. . . . .	6	..	5	2	..	..	..	..	..	..	..	..	13	7	..
	C. . . . .	2	..	..	..	..	..	..	..	..	..	..	..	2	1	..
Cecil. . . . .	W. . . . .	1	2	1	..	..	..	..	..	..	..	..	..	4	4	1
	C. . . . .	2	2	1	..	1	..	..	..	..	..	..	..	6	3	..
Charles. . . . .	W. . . . .	1	3	1	..	..	1	..	..	..	..	..	..	6	4	..
	C. . . . .	14	6	2	6	..	1	..	..	..	..	..	..	29	9	..
Dorchester. . . . .	W. . . . .	8	9	2	1	..	..	..	..	..	..	..	..	20	8	..
	C. . . . .	4	5	5	..	1	1	..	..	..	..	..	..	16	6	1
Frederick. . . . .	W. . . . .	8	12	8	3	..	..	..	..	..	..	..	..	31	16	..
	C. . . . .	1	1	1	..	..	..	..	..	..	..	..	..	3	1	..
Garrett. . . . .	W. . . . .	12	4	3	3	..	..	..	..	..	..	..	..	22	8	..
	C. . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Harford. . . . .	W. . . . .	7	..	3	1	1	..	..	..	..	..	..	..	12	3	..
	C. . . . .	1	..	1	..	1	..	..	..	..	..	..	..	3	..	..
Howard. . . . .	W. . . . .	1	1	2	..	..	..	..	..	..	..	..	..	4	2	..
	C. . . . .	3	2	2	..	..	..	..	..	..	..	..	..	7	1	..
Kent. . . . .	W. . . . .	3	1	..	3	1	..	..	..	..	..	..	..	8	3	..
	C. . . . .	1	3	1	2	1	..	..	..	..	..	..	..	8	2	..
Montgomery. . . . .	W. . . . .	5	2	1	..	..	..	..	..	..	..	..	..	8	6	..
	C. . . . .	4	2	2	2	2	1	..	..	..	..	..	..	11	3	..
Prince George's..	W. . . . .	2	2	1	..	1	..	..	..	..	..	..	..	6	8	..
	C. . . . .	3	3	4	1	1	1	..	..	..	..	..	..	13	6	..
Queen Anne's. . . . .	W. . . . .	1	1	1	..	..	..	..	..	..	..	..	..	3	6	..
	C. . . . .	6	..	..	2	1	..	..	..	..	..	..	..	9	2	..
Somerset. . . . .	W. . . . .	3	3	..	..	..	..	..	..	..	..	..	..	6	4	..
	C. . . . .	6	5	3	..	..	..	..	..	..	..	..	..	14	5	..
St. Mary's. . . . .	W. . . . .	8	2	2	..	..	..	1	..	..	..	..	..	13	7	..
	C. . . . .	6	4	2	2	1	2	..	..	1	..	..	..	18	4	..
Talbot. . . . .	W. . . . .	1	3	..	..	..	..	..	..	..	..	..	..	4	3	..
	C. . . . .	3	3	..	..	1	..	1	..	..	..	..	..	8	6	..
Washington. . . . .	W. . . . .	12	15	7	2	1	1	1	1	..	..	..	..	40	15	..
	C. . . . .	..	..	..	..	..	..	..	..	..	..	..	..	..	1	..
Wicomico. . . . .	W. . . . .	2	2	..	3	..	..	..	..	..	..	..	..	7	17	1
	C. . . . .	1	1	1	3	..	..	..	..	..	..	..	..	6	4	..
Worcester. . . . .	W. . . . .	..	1	2	..	..	1	..	..	..	..	..	..	4	1	..
	C. . . . .	9	1	1	..	1	1	1	1	..	..	..	..	15	3	..
White. . . . .	..	116	90	55	27	7	9	3	2	..	..	..	1	310	186	2
Colored. . . . .	..	88	54	39	27	12	9	2	2	2	..	..	..	238	74	1
Total. . . . .	..	204	144	94	54	19	18	5	4	2	1	..	1	548	260	3

A 19th child was born in Anne Arundel, and another in St. Mary's county, colored; a 20th child was born in Anne Arundel county, colored; and a 22nd child in Baltimore county, white.

In Table XI the maximum age of fathers and mothers of children born in Rural Maryland during 1914 are shown for the white and colored races by counties. This table considers A, maximum age of father; B, maximum age of mother; C, minimum age of father; D, minimum age of mother.

TABLE XI.

TABLE SHOWING THE MAXIMUM AND MINIMUM AGES OF FATHERS AND MOTHERS OF CHILDREN BORN IN MARYLAND DURING 1914. WHITE AND COLORED. RURAL DISTRICTS.

ALLEGANY COUNTY.				
	W.	W.	W.	
Age of Father.....	72	52	16	
Age of Mother.....	29	49	15	
	A.	B.	C.	D.
ANNE ARUNDEL COUNTY.				
	B.	B.	B.	B.
Age of Father.....	73	Unk.	17	20
Age of Mother.....	41	48	16	14
	A.	B.	C.	D.
BALTIMORE COUNTY.				
	B.	B.	W.	B.
Age of Father.....	64	53	16	18
Age of Mother.....	42	49	20	14
	A.	B.	C.	D.
CALVERT COUNTY.				
	B.	B.	B.	B.
Age of Father.....	61	44	18	19
Age of Mother.....	34	52	15	13
	A.	B.	C.	D.
CAROLINE COUNTY.				
	B.	W.	W.	B.
Age of Father.....	80	52	17	Unk.
Age of Mother.....	32	47	19	14
	A.	B.	C.	D.

## CARROLL COUNTY.

	W.	W.	W.	W.
Age of Father.....	64	61	17	25
Age of Mother.....	34	50	16	15
	A.	B.	C.	D.

## CECIL COUNTY.

	W.	W.	W.	B.	B.
Age of Father.....	79	49	17	17	Unk.
Age of Mother.....	24	48	38	14	13
	A.	B.	C.	C.	D.

## CHARLES COUNTY.

	W.	B.	B.	B.
Age of Father.....	66	50	17	28
Age of Mother.....	38	47	16	15
	A.	B.	C.	D.

## DORCHESTER COUNTY.

	B.	W.	B.	B.
Age of Father.....	64	54	15	Unk.
Age of Mother.....	39	46	18	13
	A.	B.	C.	D.

## FREDERICK COUNTY.

	B.	W.	W.	B.
Age of Father.....	69	53	17	24
Age of Mother.....	36	51	21	15
	A.	B.	C.	D.

## GARRETT COUNTY.

	W.	W.	W.	W.
Age of Father.....	72	38	18	19
Age of Mother.....	38	49	19	14
	A.	B.	C.	D.

## HARFORD COUNTY.

	W.	W.	B.	B.
Age of Father.....	69	45	17	24
Age of Mother.....	31	45	17	14
	A.	B.	C.	D.

## HOWARD COUNTY.

	W.	W.	B.	W.
Age of Father.....	55	50	18	43
Age of Mother.....	24	48	18	14
	A.	B.	C.	D.

## KENT COUNTY.

	W.	B.	B.	B.
Age of Father.....	81	36	17	Unk.
Age of Mother.....	44	47	15	13
	A.	B.	C.	D.

## REPORT OF THE

## MONTGOMERY COUNTY.

	W.	B.	W.	B.
Age of Father.....	73	39	18	22
Age of Mother.....	29	60	17	14
	A.	B.	C.	D.

## PRINCE GEORGE'S COUNTY.

	W.	B.	B.	W.
Age of Father.....	69	51	17	21
Age of Mother.....	29	51	15	15
	A.	B.	C.	D.

## QUEEN ANNE'S COUNTY.

	W.	B.	B.	
Age of Father.....	66	48	16	
Age of Mother.....	28	46	13	
	A.	B.	C.	D.

## SOMERSET COUNTY.

	B.	B.	B.	W.
Age of Father.....	68	23	17	36
Age of Mother.....	40	46	17	13
	A.	B.	C.	D.

## ST. MARY'S COUNTY.

	W.	W.	B.	B.
Age of Father.....	70	48	17	21
Age of Mother.....	27	47	16	14
	A.	B.	C.	D.

## TALBOT COUNTY.

	W.	B.	W.	B.
Age of Father.....	72	46	18	23
Age of Mother.....	46	46	19	14
	A.	B.	C.	D.

## WASHINGTON COUNTY.

	W.	W.	W.	W.
Age of Father.....	67	41	17	23
Age of Mother.....	43	48	16	15
	A.	B.	C.	D.

## WICOMICO COUNTY.

	W.	W.	B.	W.
Age of Father.....	70	45	18	21
Age of Mother.....	41	44	15	13
	A.	B.	C.	D.

## WORCESTER COUNTY.

	W.	B.	B.	B.
Age of Father.....	59	50	17	18
Age of Mother.....	40	48	15	14
	A.	B.	C.	D.

## AVERAGE AGES OF PARENTS.

To determine the average age of parents, the number of parents of each sex having reached a given quinquennial period (15-20, 20-25, etc.) at the time of the birth of the child, is multiplied by the median age (17.5, 22.5, etc.).

For mothers of 45 years or over, 50 is the factor employed. For fathers of 50 years or over, the factor 55 is used.

Since the number who become mothers at or after the age of 50 is small, while the number of fathers aged 55 or more is large, the average age of the mother, as it appears in this table, will be somewhat too high. It will be noticed on reference to the preceding table that the maximum age of any mother was 60 years.

Average age of father, 32.53.

Average age of mother, 28.00.

According to the figures the father is 4.53 years older than the mother.

Maximum age of father, 81 years (mother 44, white).

Maximum age of mother, 60 years (father 39, black).

Minimum age of father, 15 years (mother 18, black).

Minimum age of mother, 13 years (father 36, white).

The succeeding table (Table XII) gives the ages of fathers and mothers of children born in the Rural Districts of Maryland during 1914 without distinction of color.

TABLE XII.

AGE OF PARENTS OF CHILDREN BORN IN RURAL MARYLAND DURING 1914.

Age Period.	Number of		Number of	
	Fathers.	Per Cent.	Mothers.	Per Cent.
10-15. . . . .	....	....	28	0.16
15-20. . . . .	282	1.56	2,040	11.32
20-25. . . . .	3,309	18.37	5,076	28.17
25-30. . . . .	4,313	23.94	4,241	23.54
30-35. . . . .	3,507	19.47	3,261	18.10
35-40. . . . .	3,013	16.72	2,274	12.63
40-45. . . . .	1,913	10.62	917	5.09
45-50. . . . .	866	4.81	....	....
50 and Over.....	542	3.01	....	....
45 and Over.....	....	....	108	0.60
Unknown. . . . .	270	1.50	70	0.39
Total.....	18,015		18,015	

21 mothers at the age of 14 years; 7 mothers at the age of 13 years.

The above table may be used for comparative purposes in determining the age most favorable to fecundity in the male and female sexes, though it must be understood that such a table is only approximate. From this table it appears, that the greatest number of fathers were between the ages of 25 and 30 years (23.94%), and the greatest number of mothers between 20 and 25 years (28.17%). The table illustrates very plainly the superior fecundity of the female sex in early life, and the persistence of fecundity in the male in advanced life. Thus only 1.56% of the fathers were under the age of 20, as against 11.48% of the mothers, or a proportion of about 1 to 11, and of the mothers there were seven at the age of thirteen, and twenty-one at the age of 14 years. At the other extreme however, we find 7.82% of the fathers over the age of 45, and only 0.60% of the mothers over that age, a proportion of about 1 to 13. Among this group there was 1 father at the age of 81, one at 80 years, one at 79 years, 2 at 73 years, 3 at 72 years and 2 at 70 years of age.

TABLE XIII.

MEAN AGES OF PARENTS OF CHILDREN BORN IN RURAL MARYLAND, 1914.

Mean age of Fathers.....	32.53
Mean age of Mothers.....	28.00
Mean excess of Father's age.....	4.53

## BIRTH REGISTRATION.

For the purpose of ascertaining the extent of the practice of midwives as shown by registration, two tables were made. Table XIV gives the actual number of births attended by physicians, midwives or others, *i. e.* (no physician or midwife in attendance). Of a total of 14,216 white births, 12,123 were attended by physicians, 1,956 by midwives and 137 did not have the attendance of either a physician or midwife. On the other hand of a total of 3,799 colored births, 1,460 received the attention of a physician, 2,247 were attended by midwives and 92 had neither the attention of a physician or midwife. The total number of births attended by physicians was 13,583, the total number attended by midwives was 4,203 and the total number without the attention of midwife or physician was 229.

TABLE XIV.

NUMBER OF BIRTHS ATTENDED BY PHYSICIANS AND MIDWIVES—WHITE  
AND COLORED—RURAL MARYLAND, 1914.

Counties.	White.				Colored.				Total. W. & C.
	Physicians.	Midwives.	Others.	Total	Physicians.	Midwives.	Others.	Total.	
Allegany. . . . .	1,658	98	19	1,775	28	11	0	39	1,814
Anne Arundel. . .	523	176	3	702	148	205	15	368	1,070
Baltimore. . . .	1,750	711	14	2,475	139	83	8	230	2,705
Calvert. . . . .	95	46	1	142	22	156	3	181	323
Caroline. . . . .	241	91	6	338	29	109	3	141	479
Carroll. . . . .	667	9	4	680	31	6	2	39	719
Cecil. . . . .	402	0	2	404	47	7	3	57	461
Charles. . . . .	106	111	4	221	25	273	8	306	527
Dorchester. . . .	383	98	7	488	82	214	6	302	790
Frederick. . . . .	1,097	40	13	1,150	65	21	3	89	1,239
Garrett. . . . .	530	24	16	570	0	0	0	0	570
Harford. . . . .	415	3	5	423	78	8	4	90	513
Howard. . . . .	249	17	3	269	74	38	1	113	382
Kent. . . . .	153	38	0	191	53	95	5	153	344
Montgomery. . . .	434	17	2	453	151	80	4	235	688
Prince George's. .	521	86	2	609	87	216	4	307	916
Queen Anne's. . .	222	31	0	253	38	102	1	141	394
Somerset. . . . .	364	30	1	395	98	125	5	228	623
St. Mary's. . . .	147	97	4	248	42	155	4	201	449
Talbot. . . . .	242	27	0	269	62	102	2	166	435
Washington. . . .	1,291	86	24	1,401	28	7	0	35	1,436
Wicomico. . . . .	396	74	3	473	80	70	7	157	630
Worcester. . . . .	237	46	4	287	53	164	4	221	508
Total. . . . .	12,123	1,956	137	14,216	1,460	2,247	92	3,799	18,015



Table XV gives the percentage of births, white and colored, attended by physicians and midwives respectively. In all counties, except Charles, the majority of white mothers had the attendance of a physician. In this county 50.23% of white births were attended by midwives, however, in a number of the other counties, namely, Anne Arundel, Baltimore, Calvert, Caroline and St. Mary's, over 25% of white mothers were attended by midwives. It is a noteworthy fact that in the three counties giving a midwifery attendance upon white mothers of less than 3%, the reported birth rate is low. If full registration were obtained from these counties the percentage of midwives in attendance would be materially higher. Counties in which the largest proportion of white mothers had neither the services of physicians or midwives were Garrett, 2.81% of births reported, and Charles, 1.81% of births reported. Among the colored population the relatively large practice of midwives is seen. In twelve counties over 50% of colored births were attended by midwives. The county in which the largest percentage of colored mothers were attended by midwives is Charles county, 89.22%, Calvert county second with 86.19%. The counties in which the largest percentage of colored mothers had neither the attention of physician or midwife are Cecil county, 5.26%, and Carroll county, 5.13%.

TABLE XV.

PERCENTAGE OF BIRTHS ATTENDED BY PHYSICIANS AND MIDWIVES—WHITE  
AND COLORED—RURAL MARYLAND, 1914.

<i>Counties.</i>	<i>Percentage of White Births.</i>			<i>Percentage of Colored Births.</i>		
	<i>Physicians.</i>	<i>Midwives.</i>	<i>Others.</i>	<i>Physicians.</i>	<i>Midwives.</i>	<i>Others.</i>
Allegany. . . . .	93.41	05.52	01.07	71.79	28.21	00.00
Anne Arundel. . . . .	74.50	25.07	00.43	40.22	55.71	04.08
Baltimore. . . . .	70.71	28.73	00.57	60.43	36.09	03.48
Calvert. . . . .	66.90	32.39	00.70	12.15	86.19	01.66
Caroline. . . . .	71.30	26.92	01.78	20.57	77.31	02.13
Carroll. . . . .	98.09	01.32	00.59	79.48	15.38	05.13
Cecil. . . . .	99.50	00.00	00.50	82.46	12.28	05.26
Charles. . . . .	47.96	50.23	01.81	08.17	89.22	02.61
Dorchester. . . . .	78.48	20.08	01.43	27.15	70.86	01.99
Frederick. . . . .	95.39	03.48	01.13	73.03	23.60	03.37
Garrett. . . . .	92.98	04.21	02.81	00.00	00.00	00.00
Harford. . . . .	98.11	00.71	01.18	86.67	08.89	04.44
Howard. . . . .	92.57	06.32	01.12	65.49	33.63	00.88
Kent. . . . .	80.10	19.90	00.00	34.64	62.09	03.27
Montgomery. . . . .	95.81	03.75	00.44	64.26	34.04	01.70
Prince George's. . . . .	85.55	14.12	00.33	28.34	70.36	01.30
Queen Anne's. . . . .	87.75	12.25	00.00	26.95	72.34	00.71
Somerset. . . . .	92.15	07.59	00.25	42.98	54.82	02.19
St. Mary's. . . . .	59.27	39.11	01.61	20.90	77.11	01.99
Talbot. . . . .	89.96	10.04	00.00	37.35	61.45	01.20
Washington. . . . .	92.15	06.14	01.71	80.00	20.00	00.00
Wicomico. . . . .	83.72	15.64	00.63	50.96	44.59	04.46
Worcester. . . . .	82.58	16.03	01.39	23.98	74.21	01.81
Total. . . . .	85.28	13.76	00.96	38.43	59.15	02.42

The registration of colored births in this State is by no means complete. The total birth rate among the colored population reported during the year 1914 was 24.93 per thousand. This birth rate should not be below 26.

Table XVI gives the births male, female, white and colored, estimated population and birth rate per 1,000 of the cities and towns of Maryland with a population of 2,000 and over. The highest birth rates returned are from Hagerstown, 37.69 per thousand and Pocomoke City, 35.18 per thousand. Good returns were also received from Cumberland which gave 31.28 per 1,000; Cambridge, 33.94 per 1,000; Frostburg, 31.66 per 1,000; Crisfield, 31.42 per 1,000; Easton, 34.99 per 1,000; and Salisbury, 30.19 per 1,000; Annapolis, 25.68 per 1,000; Brunswick, 26.33 per 1,000; and Westernport, 28.98 per 1,000. Birth rates below 25 per 1,000 are certainly not to be considered adequate. Registration of births should be considerably easier for local registrars to obtain in cities and towns than in the rural districts and local registrars who have jurisdiction over them should not be satisfied with birth rates under 25. There is great room for improvement in Havre de Grace, Chestertown and Laurel.

TABLE XVI.

BIRTHS BY SEX AND COLOR, ESTIMATED POPULATION AND BIRTH RATE  
PER 1,000 OF TOWNS IN MARYLAND WITH POPULATION  
OF 2,000 AND OVER, 1914.

<i>Towns.</i>	<i>Male.</i>	<i>Female.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>	<i>Estimated Population.</i>	<i>Births Per 1,000.</i>
Cumberland. . . . .	391	355	713	33	746	23,847	31.28
Hagerstown. . . . .	335	334	648	21	669	17,750	37.69
Frederick. . . . .	114	116	204	26	230	10,886	21.13
Annapolis. . . . .	104	118	134	88	222	8,645	25.68
Salisbury. . . . .	135	98	182	51	233	7,718	30.19
Cambridge. . . . .	105	122	148	79	227	6,688	33.94
Frostburg. . . . .	99	102	199	2	201	6,349	31.66
Havre de Grace. . . . .	37	43	66	14	80	4,548	17.59
Brunswick. . . . .	59	53	108	4	112	4,254	26.33
Crisfield. . . . .	65	66	106	25	131	3,597	31.42
Westminster. . . . .	43	40	78	5	83	3,336	24.88
Easton. . . . .	65	43	74	34	108	3,087	34.99
Westernport. . . . .	46	41	84	3	87	3,002	28.98
Chestertown. . . . .	26	20	25	21	46	2,619	17.56
Laurel. . . . .	17	11	26	2	28	2,558	10.95
Pocomoke City. . . . .	46	41	52	35	87	2,473	35.18
Elkton. . . . .	34	27	47	14	61	2,464	24.76
Total. . . . .	1,721	1,630	2,894	457	3,351	113,821	29.44

2 sex unknown.

## DEATHS IN MARYLAND.

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The total number of deaths recorded in Maryland during 1914 was 21,383; of these, 10,832 occurred in the Rural Districts and 10,551 in Baltimore City.

The total number of white deaths was 15,797; of colored deaths, 5,586.

The total number of male deaths was 11,383; of female deaths, 10,000.

Table III and III-A give the births, deaths and increase, and the birth rates, death rates and rate of increase (per 1,000) for the white and colored population of Maryland.

Table IV gives the births, birth rates, deaths, death rates and excess of births over deaths per 1,000 of population for the male, female, white and colored, and total population of the Rural Districts, Baltimore City and the State of Maryland.

TABLE XVII.

DEATHS BY SEX AND COLOR, ESTIMATED POPULATION AND DEATH RATE  
PER 1,000 OF TOWNS IN MARYLAND WITH POPULATION  
OF 2,000 AND OVER, 1914.

<i>Towns.</i>	<i>Male.</i>	<i>Female.</i>	<i>White.</i>	<i>Colored.</i>	<i>Total.</i>	<i>Estimated Population.</i>	<i>Deaths Per 1,000.</i>
Cumberland. . . . .	235	183	383	35	418	23,847	17.53
Hagerstown. . . . .	195	160	322	33	355	17,750	20.00
Frederick. . . . .	94	83	159	18	177	10,886	16.26
Annapolis. . . . .	87	88	87	88	175	8,645	20.24
Salisbury. . . . .	98	87	134	51	185	7,718	23.97
Cambridge. . . . .	77	81	82	76	158	6,688	23.62
Frostburg. . . . .	44	40	80	4	84	6,349	13.23
Havre de Grace. . . . .	41	26	47	20	67	4,548	14.73
Brunswick. . . . .	29	18	42	5	47	4,254	11.05
Crisfield. . . . .	32	28	20	40	60	3,597	16.68
Westminster. . . . .	27	21	38	10	48	3,336	14.39
Easton. . . . .	54	41	54	41	95	3,087	30.77
Westernport. . . . .	28	18	44	2	46	3,002	15.32
Chestertown. . . . .	29	20	20	29	49	2,619	18.71
Laurel. . . . .	24	15	36	3	39	2,558	15.25
Pocomoke City. . . . .	26	33	32	27	59	2,473	23.86
Elkton. . . . .	26	28	32	22	54	2,464	21.92
Total. . . . .	1,146	970	1,612	504	2,116	113,821	18.59

Table XVII gives deaths male, female, white, colored, estimated population and deaths per 1,000 for towns and cities of Rural Maryland with a population of 2,000 or over. The death rate in a number of these towns particularly Cumberland, Salisbury, Cambridge, Easton and Elkton are excessively high on account of the fact that in them are located hospitals and all the hospital deaths are credited to the death rate of the town. This is also true of Hagerstown and Annapolis, both of which give a death rate of over 19 per thousand. Between the year 1913 and 1914 only one town, namely, Brunswick, gives a death rate which can be considered unusually low, 11.05 per thousand. Frostburg has the next lowest death rate, 13.23 per thousand, and Westminster the next, 14.39 per thousand.

TABLE XVIII.

DEATHS FOR THE YEAR 1914 BY AGES, SHOWING PERCENTAGES OF TOTAL MORTALITY IN THE SEVERAL AGE PERIODS OF LIFE IN THE RURAL DISTRICTS, BALTIMORE CITY, AND IN THE STATE OF MARYLAND.

<i>Age Periods.</i>	<i>Rural Districts</i>		<i>Baltimore City.</i>		<i>Maryland.</i>	
	<i>Deaths.</i>	<i>Per Ct.</i>	<i>Deaths.</i>	<i>Per Ct.</i>	<i>Deaths.</i>	<i>Per Ct.</i>
0 to 1 year...	2,122	19.59	1,954	18.52	4,076	19.06
1 to 5 years...	665	6.14	678	6.43	1,343	6.28
5 to 10 years...	205	1.89	192	1.82	397	1.86
10 to 15 years...	177	1.63	122	1.16	299	1.40
15 to 20 years...	344	3.18	229	2.17	573	2.68
20 to 25 years...	389	3.59	414	3.92	803	3.76
25 to 30 years...	388	3.58	426	4.04	814	3.81
30 to 35 years...	332	3.07	425	4.03	757	3.54
35 to 40 years...	398	3.67	514	4.87	912	4.27
40 to 45 years...	433	4.00	573	5.43	1,006	4.70
45 to 50 years...	424	3.91	605	5.73	1,029	4.81
50 to 55 years...	490	4.52	666	6.31	1,156	5.41
55 to 60 years...	585	5.40	665	6.30	1,250	5.85
60 to 65 years...	602	5.56	720	6.82	1,322	6.18
65 to 70 years...	744	6.87	659	6.25	1,403	6.56
70 to 75 years...	823	7.60	660	6.26	1,483	6.94
75 to 80 years...	723	6.67	488	4.63	1,211	5.66
80 yrs. and over.	906	8.36	561	5.32	1,467	6.86
Unknown. . . . .	82	0.76	0	0.00	82	0.38
Total. . . . .	10,832		10,551		21,383	

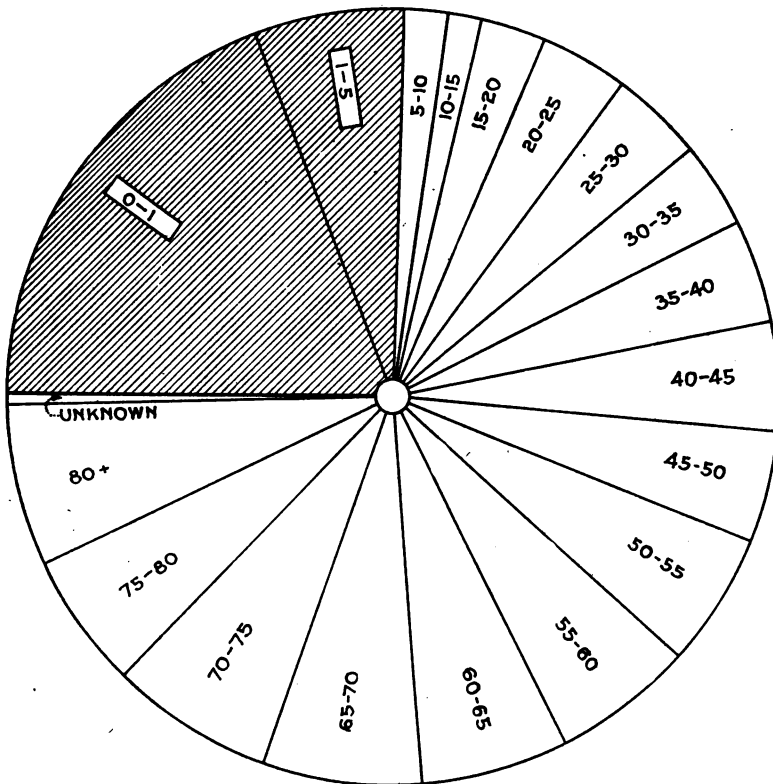
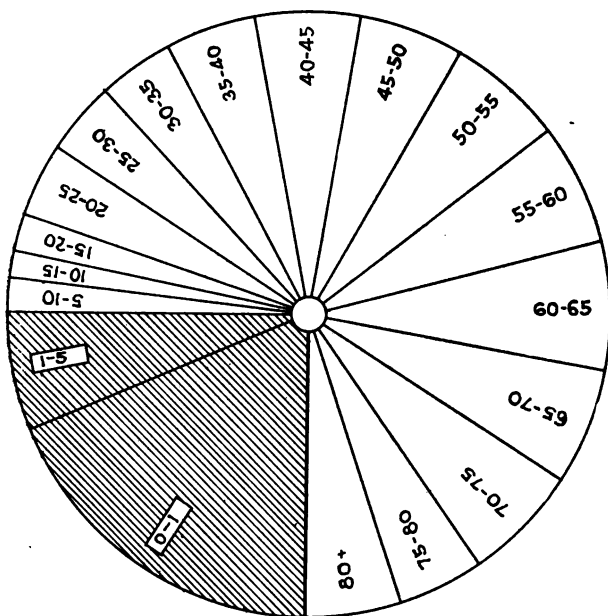
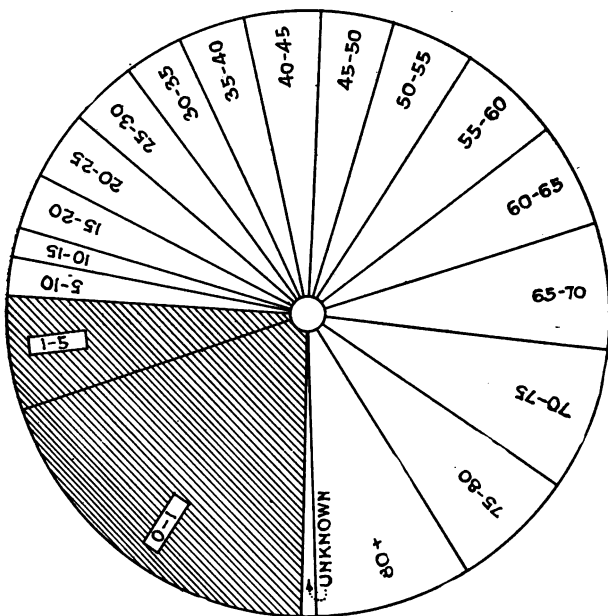


CHART 3—State of Maryland—Deaths by Ages, 1914.





BALTIMORE CITY.



RURAL DISTRICTS.

1914.

CHART 4—Deaths by Ages.

The preceding table (Table XVIII) gives the distribution of the deaths in the Rural Districts, Baltimore City and Maryland, according to age, giving the number of deaths at each age period and the percentages of total mortality. Chart 3 and Chart 4 show graphically the percentage of deaths at the several age periods; the charts indicate the excessive percentage of deaths in infancy (under 2 and under 5 years). The rise in the number of deaths at the age period of 70-75 years is probably due to the fact that the ages of a fair proportion of the deceased persons cannot be accurately determined and if they lie anywhere between the 60th or 75th year the relatives make an estimate of about 70 when certifying to the data on the certificate of death.

The table shows that the infantile mortality is slightly higher in the Rural Districts than in Baltimore City, as 19.59 per cent. of the deaths in the Rural Districts occurred under the age of 1 year and 18.52 per cent. in Baltimore City. The figures under the age of 5 for Baltimore City are 24.95% and for the Rural Districts 25.73%. This difference is also to be noted in the accompanying charts. The number of deaths over the age of 80 years is considerably higher in the Rural Districts 8.36%, than in Baltimore City 5.32%. About three-quarters of the infantile mortality occurs in the first 2 years of life.

Table XIX gives the estimated population and percentage living at each age period and the deaths and mortality rates for each age period.

The death rate per thousand of population for children under 5 years of age is 38.08. After 5 years of age the mortality falls to 2.88 per 1,000 and at the age period from 10-15 to 2.23 per 1,000. The mortality rises slowly thereafter until after 65 years of age when it becomes greater than the mortality under 5 years. The mortality after the age of 80 is 207.88.

The lowest death rate is in the period between 10 and 15 years, 2.23 per 1,000.

TABLE XIX.

POPULATION AND DEATHS PER THOUSAND AT THE SEVERAL AGE PERIODS—  
MARYLAND, 1914.

<i>Ages.</i>	<i>Per Cent.</i>	<i>Estimated Population.</i>	<i>Deaths.</i>	<i>Mortality Per 1,000 of Those Living at the Age.</i>
Under 5 Years.....	10.61	142,317	5,419	38.08
5 to 10 Years.....	10.29	138,049	397	2.88
10 to 15 Years.....	9.99	133,961	299	2.23
15 to 20 Years.....	9.88	132,447	573	4.33
20 to 25 Years.....	9.50	127,441	803	6.30
25 to 30 Years.....	8.49	113,845	814	7.15
30 to 35 Years.....	7.40	99,239	757	7.63
35 to 40 Years.....	7.12	95,489	912	9.55
40 to 45 Years.....	6.07	81,426	1,006	12.35
45 to 50 Years.....	5.24	70,290	1,029	14.64
50 to 55 Years.....	4.57	61,216	1,156	18.88
55 to 60 Years.....	3.34	44,725	1,250	27.95
60 to 65 Years.....	2.70	36,207	1,322	36.51
65 to 70 Years.....	2.05	27,519	1,403	50.98
70 to 75 Years.....	1.36	18,280	1,483	81.13
75 to 80 Years.....	0.76	10,192	1,211	118.82
80 Years & Over....	0.53	7,057	1,467	207.88
Unknown. . . . .	0.10	1,374	82	59.68
Total. . . . .		1,341,074	21,383	

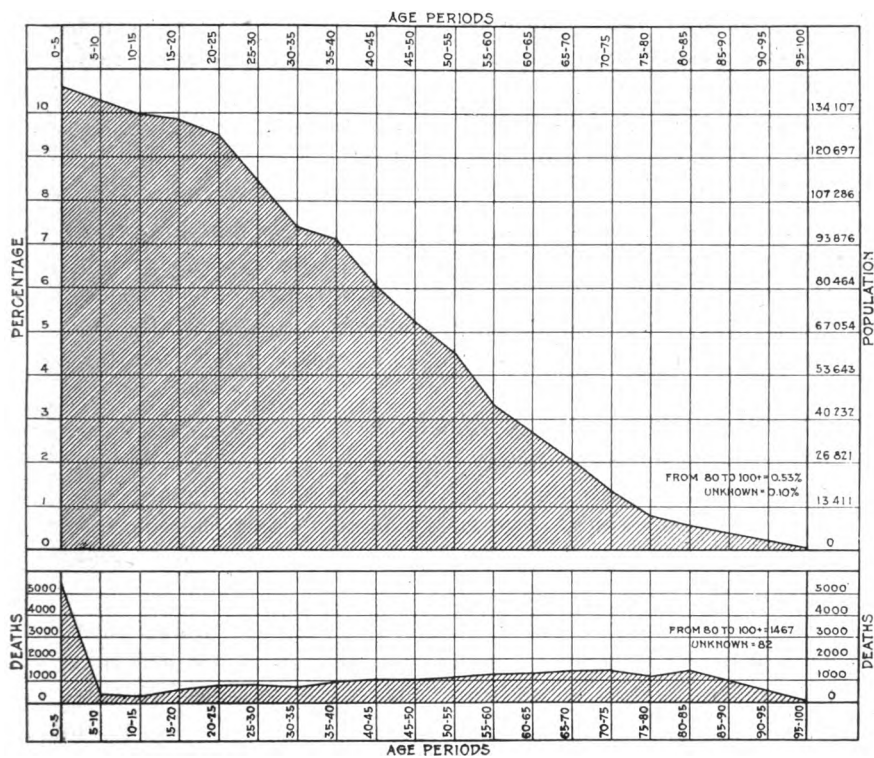


CHART 5—Distribution of the Population and Deaths by Ages,  
Maryland, 1914.

The figures of this table are graphically shown in Chart 5. The profile of the black area, including the portion below, indicates the population; the number of deaths is shown in the black area described below.

It will be noted that after the twentieth year the absolute number of deaths remains somewhat the same, but the classes of the population from which they are drawn become progressively smaller, hence the mortality in the several age periods becomes progressively greater, increasing in a geometric ratio as age increases.

The diseases producing the general mortality analyzed in the preceding tables are shown in Tables A and B, at the end of the report, and in the special tables of this section.

It is evident from the sanitary point of view that important differences exist in the nature of these diseases in their relations to the public health, both as regards their infectiousness and the possibility of their prevention; accordingly, the diseases have been classified in the table from a strictly sanitary standpoint.

The following main divisions have been recognized—parasitic diseases, constitutional diseases, congenital diseases and malformations, poisonings and intoxications, malignant neoplasms, degenerations, pregnancy and violence; other obscure affections not properly falling in one of the previous classes.

The most important of these classes is that including parasitic diseases, which are mostly communicable, and are to a large extent subject to sanitary control. All diseases of parasitic origin may be assumed to be communicable to a certain degree, although important differences exist as to the amount and extent of their contagiousness. Accordingly, these diseases are considered in three classes: (*a*) Infectious and contagious diseases; (*b*) communicable diseases; (*c*) other infections of parasitic origin.

The diseases classified under each heading are shown in Table XX. Parasitic diseases form a class largely under the control of sanitary authorities. Poisonings and intoxications are to some extent controlled by law. Constitutional dyscrasæ are not, as a rule, subject to administrative control, while congenital diseases and malformations are wholly beyond ad-

ministrative influence. Deaths from violence are also usually outside the control of sanitary authorities. The diseases classified under degenerations and malignant neoplasms form a class of maladies which are imperfectly understood, and are accordingly not capable of control by our present methods. The comparative importance of these classes as causes of death is graphically shown in Chart 6.

TABLE XX.

A CLASSIFICATION OF CAUSES OF DEATH WITH THE NUMBER OCCURRING AND THEIR RATIOS TO THE MORTALITY (MARYLAND, 1914).

<i>Diseases.</i>	<i>Balto. City.</i>	<i>Rural Dist.</i>	<i>Total.</i>	<i>P.C. of Total Mort.</i>
<b>PARASITIC DISEASES.</b>				
(Infectious and Contagious Diseases.)				
Typhoid fever, scarlatina, whooping cough, diphtheria, influenza, smallpox, measles, glanders, anthrax, actinomycosis.....	580	428	1,008	4.71
(*Communicable Diseases.)				
Malaria, dysentery, tuberculosis, syphilis, tetanus, pneumonia, gonorrhoea, rabies, erysipelas..	1,918	2,164	4,082	19.09
(†Other Infections)				
Septicæmia, pyæmia, rheumatism (febril), meningitis, bronchitis, broncho-pneumonia, gastro-intestinal inflammations (summer diarrhoea of infants), cholera nostras, tonsillitis, pharyngitis, cholecystitis (and other inflammations of the liver and gall bladder), pericarditis, cystitis, peritonitis, acute nephritis, gangrene, abscess, furuncle, pleurisy, appendicitis, laryngitis, metritis, endometritis, endocarditis (acute), salpingitis, pellagra.....	1,858	1,964	3,822	17.87
Total Parasitic Diseases.....	4,356	4,556	8,912	41.67
<b>CONSTITUTIONAL DYSCRASIAS.</b>				
Diabetes, exophthalmic goitre, gout, anæmia, chlorosis, leukemia, Addison's disease, diseases of the thyroid body.....	160	197	357	1.67

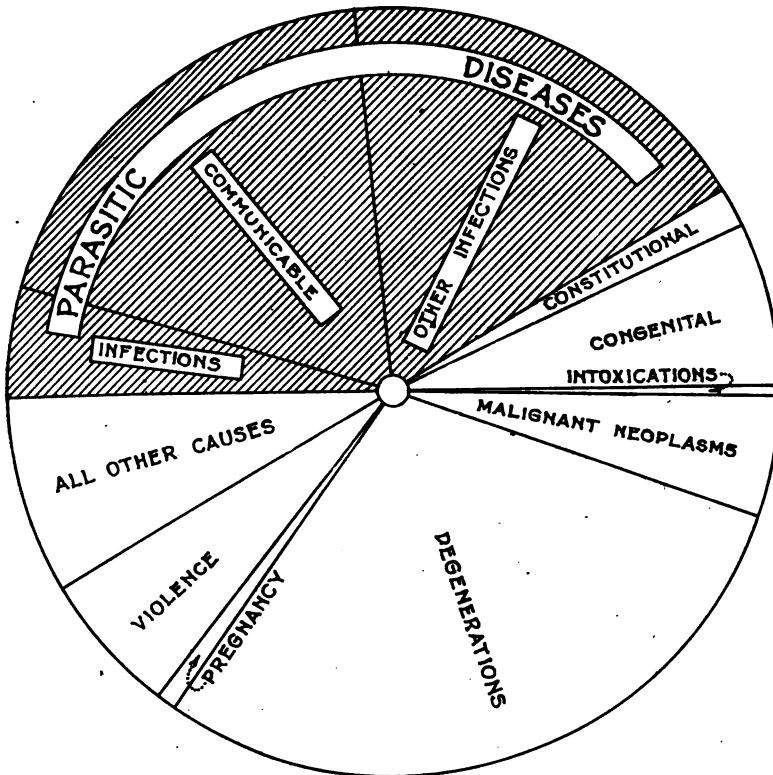
TABLE XX—Continued.

	Balto. City.	Rural Dist.	Total.	P.C.of Total Mort.
<b>CONGENITAL DISEASES AND MALFORMATIONS.</b>				
Morbus ceruleus, icterus neonatorum, marasmus, sclerema. . . . .	797	664	1,461	6.83
<b>POISONINGS AND INTOXICATIONS.</b>				
Alcoholism, saturnism and occupational intoxications, scorbutus. . . . .	36	60	96	0.45
<b>MALIGNANT NEOPLASMS.</b>				
Epithelioma, carcinoma, sarcoma. . . . .	488	595	1,083	5.06
<b>‡DEGENERATIONS.</b>				
Cerebral congestion and hemorrhage, paralysis (without specified cause), meningo-encephalitis, cerebral softening(?), epilepsy, organic diseases of the heart, angina pectoris, arteriosclerosis, aneurism (and allied arterial degenerations), asthma (in all forms), Bright's disease, senile debility and dementia, locomotor ataxia, myelitis, insanity. . . . .	3,300	2,965	6,265	29.30
<b>PREGNANCY.</b>				
Puerperal hemorrhage, puerperal septicemia, puerperal albuminuria and convulsions, plegmasia alba dolens. . . . .	95	84	179	0.84
<b>VIOLENCE.</b>				
Suicide, homicide, murder, dueling, accidental violence, poisoning, gas inhalation, drowning, strangulation and legal execution, death by insulation, lightning, freezing, burns and scalds. . . . .	663	615	1,278	5.98
All other causes. . . . .	937	815	1,752	8.19
Total. . . . .	10,832	10,551	21,383	

\*All communicable diseases have been assumed to be due to a living organism, and included in this list whether the specific cause has been discovered or not.

†The distinction between these three classes is one of kind, rather than degree as all parasitic diseases may at some time be communicable.

‡Includes mainly the disorders dependent on advanced years and prolonged strain.

CHART 6—*Maryland Classification of Causes of Death, 1914.*



## PRINCIPAL CAUSES OF DEATH.

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The principal causes of death are separately considered, as together they cause about seventy-five per cent. of the total mortality, and they are in the main, preventable diseases.

In Table XXI the twenty principal causes of death are tabulated, the table giving the number of deaths, the percentage of the total deaths and the mortality per 10,000.

In the year 1914 there has been a decided increase in the deaths from pulmonary and laryngeal tuberculosis. The total number of deaths from this cause was in 1911, 2,223; in 1912, 2,178, and 1913, 2,016, and in 1914, 2,359. The per cent. of total mortality dropped from 11.27 in 1910 to 9.58 in 1913 and in 1914 it rises to 11.03. Deaths from organic heart disease holds second place in this list and shows a substantial increase over the figure for the preceding year. While the number of deaths from chronic Bright's disease shows an increase in the year 1914 over the year 1913, its per cent. of total mortality has decreased slightly. Deaths from cerebral congestion and hemorrhage occupy the fifth place among the principal causes of death during 1914 as against the sixth place in the year 1913, while diarrhoea and enteritis which occupied the fifth place in this table in 1913 now occupies the sixth. Accidental violence shows again this year both a numerical and percentage increase, while typhoid fever shows a gratifying decrease. Special attention was called, in last year's report, to the deaths from whooping cough, and what was said last year is as true in 1914. The deaths from this cause were 215 in 1913 and 211 in 1914.

TABLE XXI.

TWENTY PRINCIPAL CAUSES OF DEATH (MARYLAND, 1914).

	<i>Deaths.</i>	<i>Per Cent. of Total Mortality.</i>	<i>Mortality Per 10,000.</i>
Tuberculosis, Pulmonary and Laryngeal.	2,359	11.08	17.59
Organic Heart Disease.....	1,813	8.48	13.52
Chronic Bright's Disease.....	1,603	7.50	11.95
Congenital Debility .....	1,286	6.01	9.59
Cerebral Congestion and Hemorrhage....	1,215	5.68	9.06
Diarrhoea and Enteritis (under 2 years).	1,189	5.56	8.87
Malignant Neoplasms .....	1,083	5.06	8.08
Pneumonia (Lobar) .....	1,075	5.03	8.02
Broncho Pneumonia .....	1,046	4.89	7.80
Accidental Violence .....	892	4.17	6.65
Affections of the Arteries .....	485	2.27	3.62
Senile Debility .....	449	2.10	3.35
Typhoid Fever .....	327	1.53	2.44
Paralysis. . . . .	296	1.38	2.21
Diarrhoea and Enteritis (over 2 years).	245	1.15	1.83
Whooping Cough. . . . .	211	0.99	1.57
Gastric Diseases .....	182	0.85	1.36
Influenza. . . . .	179	0.84	1.33
Meningitis. . . . .	134	0.63	1.00
Convulsions (Infantile) .....	119	0.56	0.89

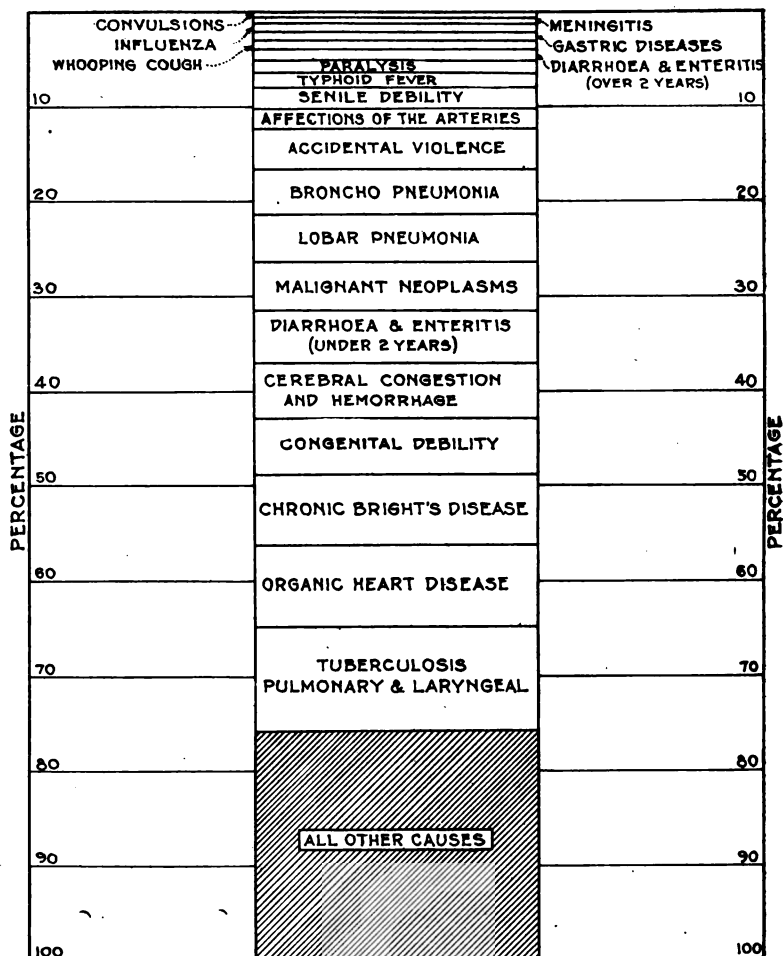


CHART 7—Twenty Principal Causes of Death, 1914.

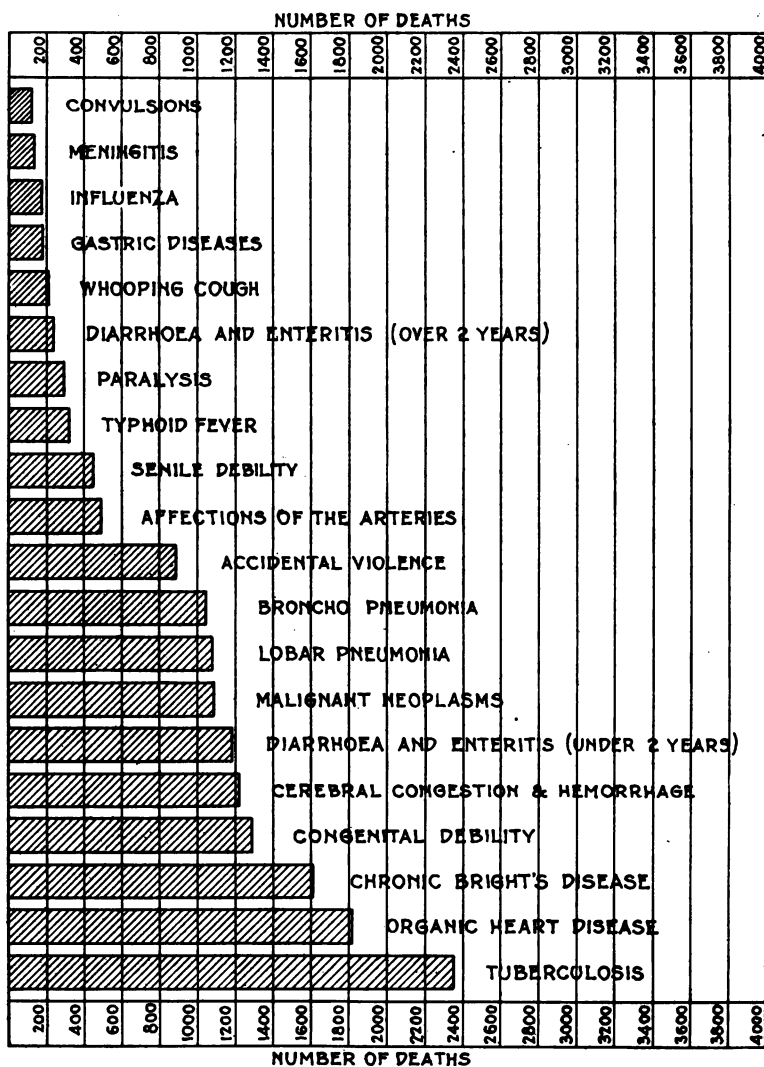


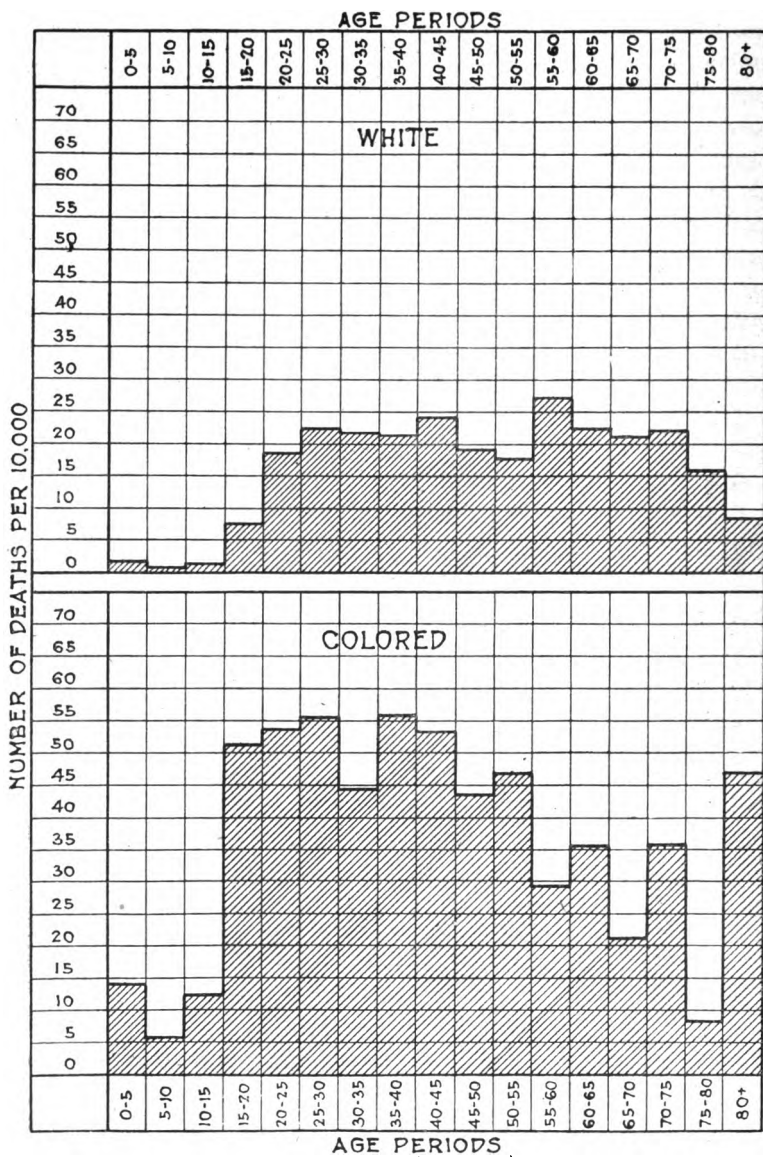
CHART 8—Twenty Principal Causes of Death, 1914.

For the purpose of making a special study of tuberculosis, Table XXII is inserted, which gives the deaths from tuberculosis by age periods, percentage of deaths in age periods, and percentage per 10,000 of the population living at the various age periods, white and colored. A much higher death rate from tuberculosis in the colored race per 10,000 of the living population is noticed throughout. The excess of deaths among the colored population is extremely disproportionate up to the 80th year. On account of the number of deaths occurring from tuberculosis at early age periods, we have always been inclined to feel that tuberculosis is a disease of early adult life; however, this table demonstrates that, while the number of deaths from tuberculosis is greater in early and middle life, it has been due to the large proportion of the population living in this age period. When we take a closer survey of the matter, we find that the number of deaths per 10,000 at given age periods does not vary much after the 20th year in the white race. In the colored race the figures are higher in the first five years of life, and take a decided rise again after the 15th year; tuberculosis appearing at a much earlier age in the colored race than in the white. While there are some fluctuations in the percentage of deaths per 10,000 of the population of the colored race at the various age periods, it still remains high in the 75th year. This is graphically demonstrated in Chart 9. Chart 10 demonstrates the percentage of deaths from tuberculosis at various age periods, white and colored. This chart shows that although tuberculosis claims its pro rata of deaths throughout the life of the residents of this State, it is the chief cause of death in the age periods, from 20 to 40 in the white population, and from 15 to 40 in the colored population. Chart 11 and Table XXIII show the number of deaths per 10,000, white and colored, in the various counties.

Howard county shows the smallest number of deaths per 10,000 among the white population while Frederick county shows the highest. This is due of course to the large number of deaths from tuberculosis at the State Sanatorium. Garrett county gives the lowest death rate among the colored population. However, the colored population in this county is so small that the statistics are not of much value when considered separately. The greatest number of deaths among the colored population occurred in Dorchester county.

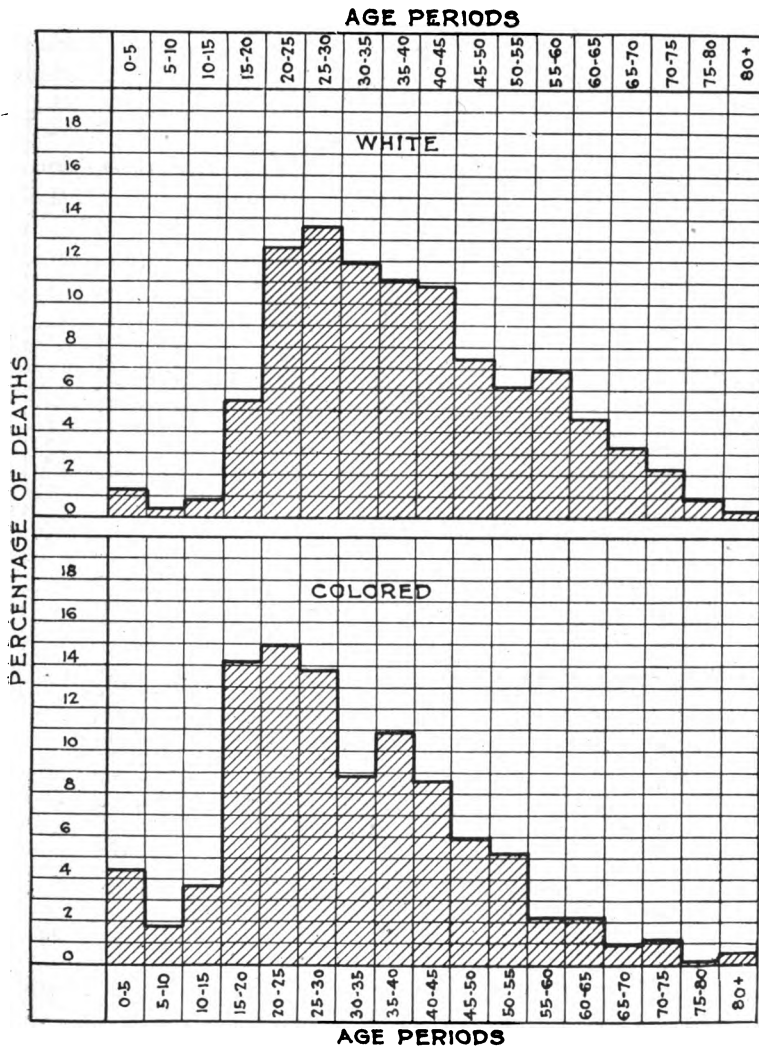
TABLE XXII.  
PULMONARY TUBERCULOSIS—1914—GIVING DEATHS BY AGES, DEATHS PER 10,000 OF  
POPULATION AT AGE PERIODS, PER CENT. OF DEATHS IN EACH  
AGE PERIOD—WHITE AND COLORED.

AGES.	WHITE.				COLORED.			
	Deaths.	Estimated Popu- lation.	Deaths per 10,000.	Per Cent. of Total Deaths.	Deaths.	Estimated Popu- lation.	Deaths per 10,000.	Per Cent. of Total Deaths.
Under 5 years.....	20	116,509	1.72	1.32	37	25,808	14.34	4.40
5 to 10 years....	6	112,403	0.53	0.40	15	25,646	5.85	1.78
10 to 15 years....	13	109,518	1.19	0.86	31	24,443	12.68	3.69
15 to 20 years....	83	109,185	7.60	5.47	119	23,262	51.16	14.15
20 to 25 years....	192	103,970	18.47	12.65	126	23,471	53.68	14.98
25 to 30 years....	206	92,874	22.18	13.57	116	20,971	55.31	13.79
30 to 35 years....	181	82,666	21.90	11.92	74	16,573	44.65	8.80
35 to 40 years....	168	78,893	21.29	11.07	92	16,596	55.44	10.94
40 to 45 years....	164	67,908	24.15	10.80	72	13,518	53.26	8.56
45 to 50 years....	113	58,809	19.21	7.44	50	11,481	43.55	5.95
50 to 55 years....	92	51,819	17.75	6.06	44	9,397	46.82	5.23
55 to 60 years....	105	38,614	27.19	6.92	18	6,111	29.46	2.14
60 to 65 years....	70	31,069	22.53	4.61	18	5,138	35.03	2.14
65 to 70 years....	50	23,746	21.06	3.29	8	3,773	21.20	0.95
70 to 75 years....	35	15,757	22.21	2.31	9	2,523	35.67	1.07
75 to 80 years....	14	8,988	15.58	0.92	1	1,204	8.30	0.12
80 and over.....	5	5,992	8.34	0.32	5	1,065	46.95	0.59
Unknown.....	1	888	11.26	0.07	6	486	123.46	0.71
TOTAL.....	1,518	1,109,608	13.68	....	841	231,466	36.33	....



## TUBERCULOSIS, 1914.

**CHART 9—Comparative Chart Giving Deaths per 10,000 at Various Age Periods, Maryland, White and Colored.**



## TUBERCULOSIS, 1914.

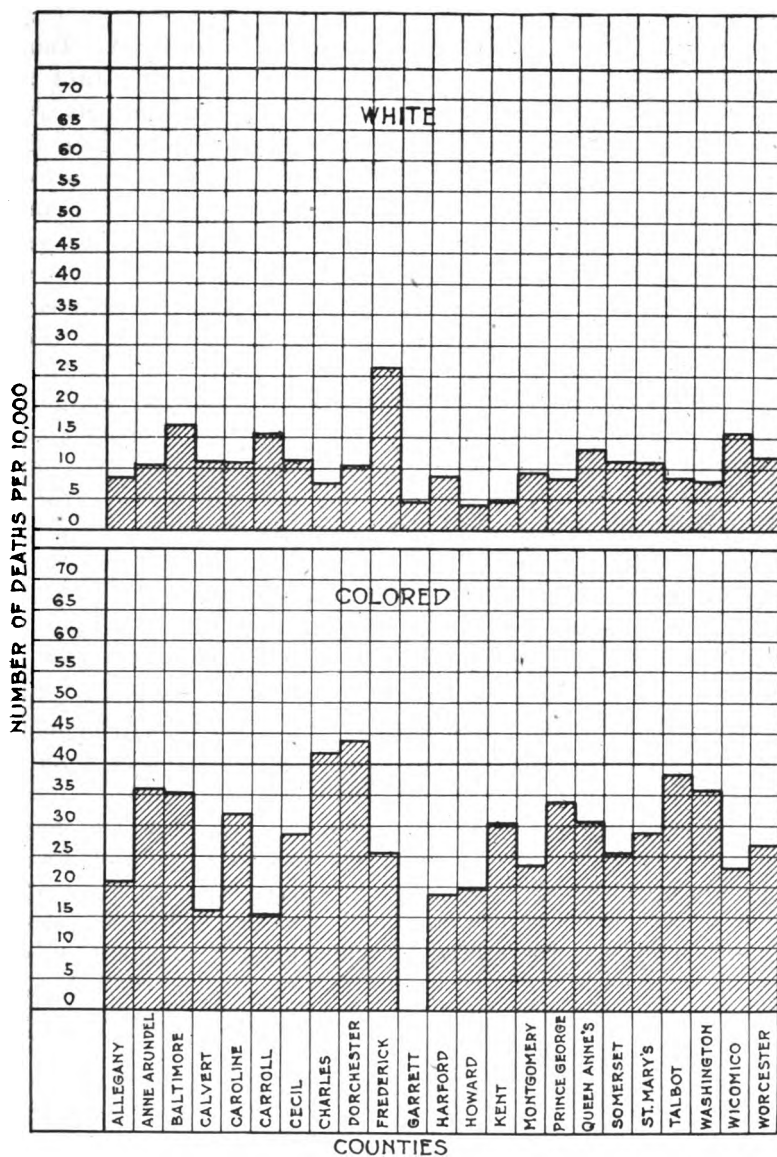
**CHART 10—Comparative Chart Demonstrating the Percentage of Deaths at Various Age Periods from Tuberculosis, White and Colored, Maryland.**



TABLE XXIII.

DEATHS PER 10,000 POPULATION FROM PULMONARY TUBERCULOSIS—WHITE  
AND COLORED—MARYLAND—1914.

<i>County.</i>	<i>White.</i>	<i>Colored.</i>
Allegany. . . . .	8.50	20.68
Anne Arundel . . . . .	10.43	35.94
Baltimore. . . . .	17.10	35.29
Calvert. . . . .	11.19	15.99
Carolina. . . . .	11.00	31.85
Carroll. . . . .	15.62	15.32
Cecil. . . . .	11.36	28.75
Charles. . . . .	7.77	41.90
Dorchester. . . . .	10.22	43.64
Frederick. . . . .	26.33	25.30
Garrett. . . . .	4.75	.....
Harford. . . . .	8.68	18.75
Howard. . . . .	4.05	19.97
Kent. . . . .	4.73	30.27
Montgomery. . . . .	9.21	23.61
Prince George's . . . . .	8.36	33.63
Queen Anne's . . . . .	13.20	30.47
Somerset. . . . .	11.03	25.39
St. Mary's . . . . .	10.93	28.99
Talbot. . . . .	8.58	38.54
Washington. . . . .	8.07	35.68
Wicomico. . . . .	15.92	23.02
Worcester. . . . .	11.87	26.79
Total Counties . . . . .	12.52	30.61
Baltimore City . . . . .	15.14	45.78
Total Maryland . . . . .	13.68	36.33



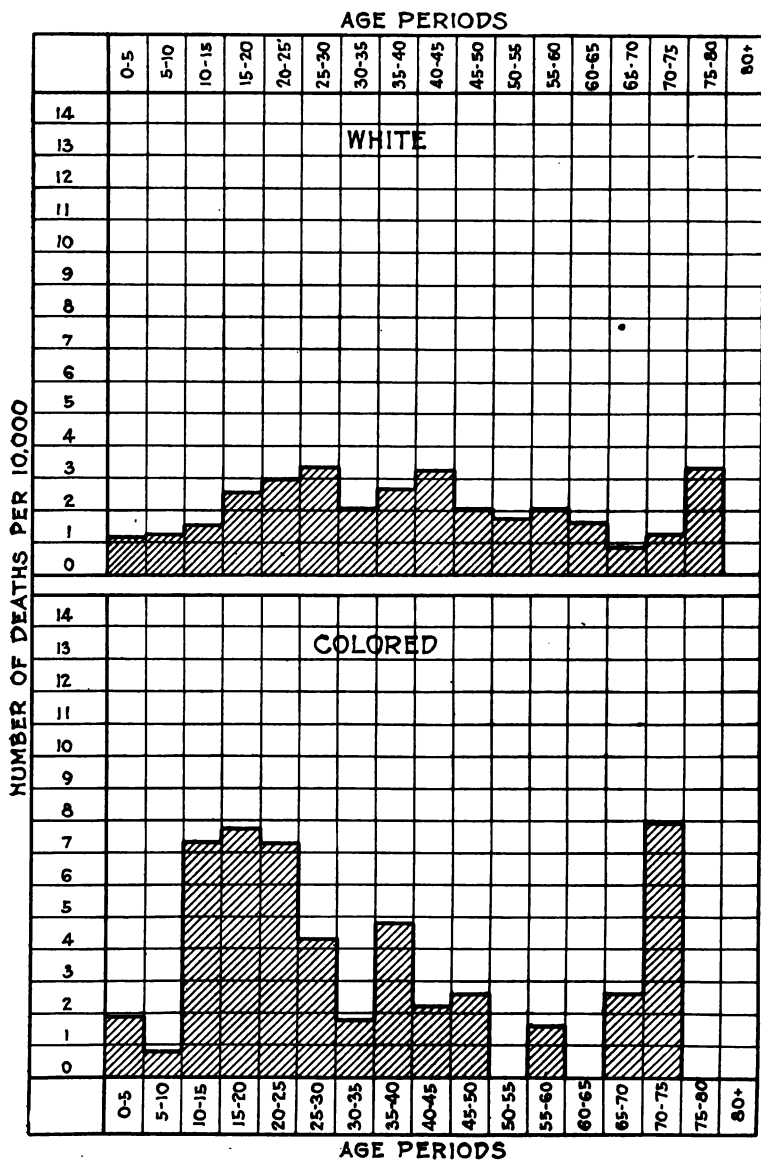
## TUBERCULOSIS, 1914.

**CHART 11—Comparative Chart—Demonstrating Excess of Deaths from Tuberculosis in the Colored Population of Rural Maryland—Deaths per 10,000 of White and Colored Population by Counties.**

For the purpose of a special study of typhoid fever in Maryland Tables XXIV and XXV have been introduced. Table XXIV gives the deaths from typhoid fever during 1914 by ages, deaths per 10,000 of population at the age periods, per cent. of deaths in each age period of total deaths for both the white and colored population. This table shows for the white population the per cent. of deaths from this cause is the same in the age periods 0-5 and 5-10 (5.93%) after which the percentage rises to the decennial period 20-30 (13.14%) where it reaches its maximum. From there on the decrease is irregular. In the colored population there is considerable difference in the percentages in the first (5.49%) and second (2.20%) quinquennial periods. The percentage reaches its maximum (19.78%) and remains high in the next two quinquennial periods (19.78% and 18.68%) respectively. From the 20th year the percentage declines rapidly and irregularly. Table XXV gives the deaths per 10,000 of the population by counties from typhoid fever. The greatest number of deaths per 10,000 among the white population was in Calvert county 9.32; Allegany county was second, 5.41. The lowest number of deaths per 10,000 of the white population was in Howard County, in which county there was no death from typhoid fever in 1914. The maximum number of deaths per 10,000 of colored population occurred in Calvert county, 17.99; with Frederick county second, 11.68; Wicomico county third, 9.21, and Queen Anne's county fourth, 8.96. There were six counties in which there were no deaths reported among the colored population from typhoid fever, namely, Allegany, Baltimore, Caroline, Carroll, Garrett and Washington. In Garrett county, however, as has been noted in discussing the previous tables the colored population is so small that it is not fair to compare the returns with those of counties with large colored populations.

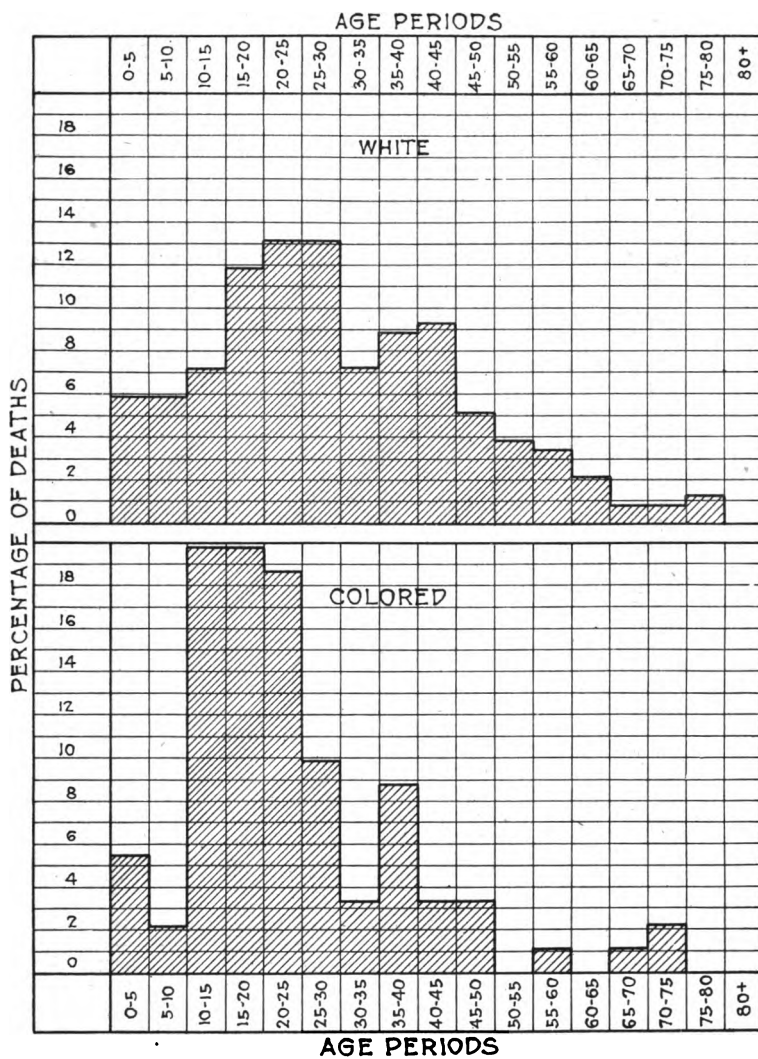
TABLE XXIV.  
 TYPHOID FEVER—1914—GIVING DEATHS BY AGES, DEATHS PER 10,000 OF POPULATION  
 AT AGE PERIODS, PER CENT. OF DEATHS IN EACH  
 AGE PERIOD—WHITE AND COLORED.

AGES.	WHITE.				COLORED.			
	Deaths.	Estimated Population.	Deaths per 10,000.	Per Cent. of Total Deaths.	Deaths.	Estimated Population.	Deaths per 10,000.	Per Cent. of Total Deaths.
Under 5 years....	14	116,509	1.20	5.93	5	25,808	1.94	5.49
5 to 10 years....	14	112,403	1.25	5.93	2	25,646	0.78	2.20
10 to 15 years....	17	109,518	1.55	7.20	18	24,443	7.36	19.78
15 to 20 years....	28	103,185	2.56	11.86	18	23,262	7.74	19.78
20 to 25 years....	31	103,970	2.98	13.14	17	23,471	7.24	18.68
25 to 30 years....	31	92,874	3.34	13.14	9	20,971	4.29	9.89
30 to 35 years....	17	82,666	2.06	7.20	3	16,573	1.81	3.30
35 to 40 years....	21	78,893	2.66	8.90	8	16,596	4.82	8.79
40 to 45 years....	22	67,908	3.24	9.32	3	13,518	2.22	3.30
45 to 50 years....	12	58,809	2.04	5.08	3	11,481	2.61	3.30
50 to 55 years....	9	51,819	1.74	3.81	....	9,397	....	....
55 to 60 years....	8	38,614	2.07	3.39	1	6,111	1.64	1.10
60 to 65 years....	5	31,069	1.61	2.12	....	5,138	....	....
65 to 70 years....	2	23,746	0.84	0.85	1	3,773	2.65	1.10
70 to 75 years....	2	15,757	1.27	0.85	2	2,523	7.93	2.20
75 to 80 years....	3	8,988	3.34	1.27	....	1,204	....	....
80 and over.....	....	5,992	....	....	....	1,065	....	....
Unknown.....	....	888	....	....	1	486	20.58	1.10
TOTAL.....	236	1,109,608	2.13	....	91	231,463	3.93	....



TYPHOID FEVER, 1914.

CHART 12—Comparative Chart Giving Deaths per 10,000 at Various Age Periods, Maryland, White and Colored.



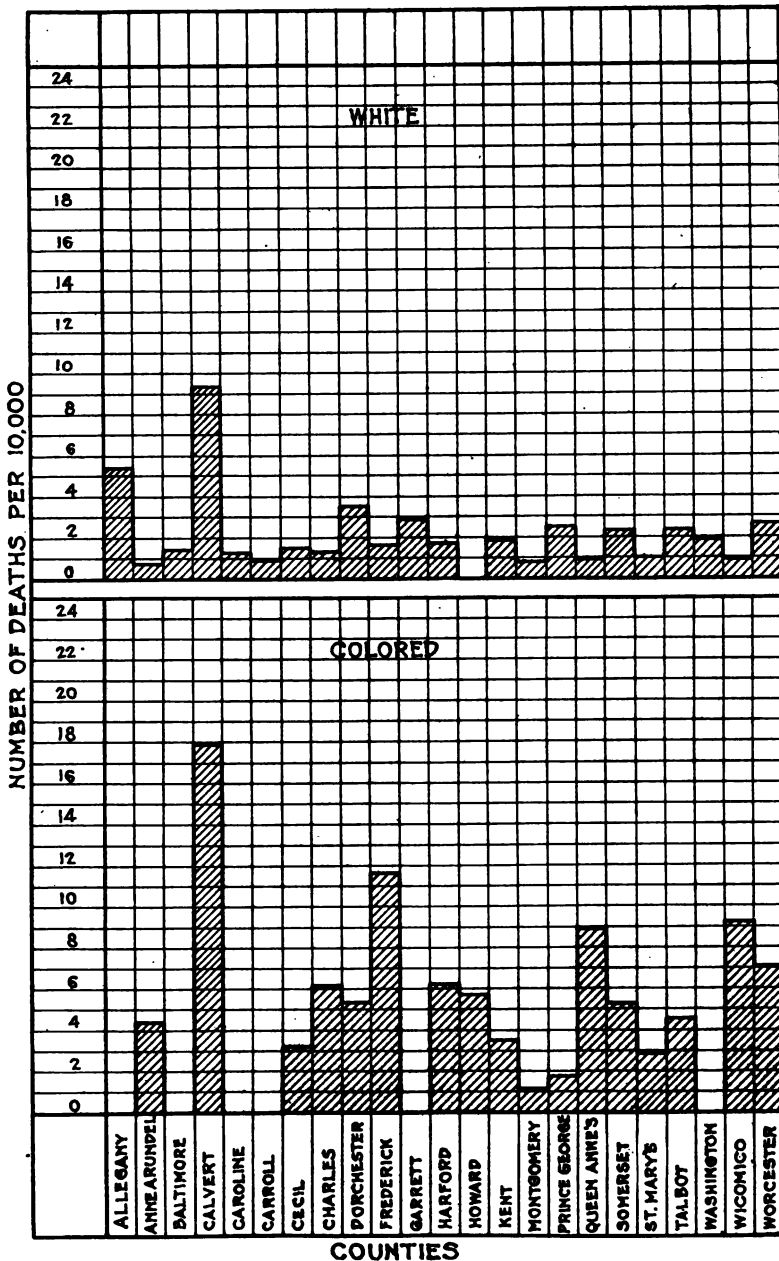
TYPHOID FEVER, 1914.

**CHART 13**—*Demonstrating the Percentage of Deaths at Various Age Periods from Typhoid Fever, White and Colored, Maryland.*

TABLE XXV.

DEATHS PER 10,000 POPULATION FROM TYPHOID FEVER—WHITE AND COLORED—MARYLAND—1914.

<i>County.</i>	<i>White.</i>	<i>Colored.</i>
Allegany. . . . .	5.41	.....
Anne Arundel . . . . .	0.77	4.40
Baltimore. . . . .	1.47	.....
Calvert. . . . .	9.32	17.99
Caroline. . . . .	1.29	.....
Carroll. . . . .	0.94	.....
Cecil. . . . .	1.48	3.19
Charles. . . . .	1.29	6.16
Dorchester. . . . .	3.58	5.32
Frederick. . . . .	1.67	11.68
Garrett. . . . .	2.85	.....
Harford. . . . .	1.74	6.25
Howard. . . . .	.....	5.71
Kent. . . . .	1.89	3.56
Montgomery. . . . .	0.84	1.12
Prince George's . . . . .	2.54	1.77
Queen Anne's . . . . .	0.94	8.96
Somerset. . . . .	2.32	5.29
St. Mary's . . . . .	0.99	2.90
Talbot. . . . .	2.34	4.63
Washington. . . . .	1.82	.....
Wicomico. . . . .	0.91	9.21
Worcester. . . . .	2.64	7.05
Total Counties . . . . .	2.09	4.72
Baltimore City . . . . .	2.17	2.63
Total Maryland . . . . .	2.13	3.93



TYPHOID FEVER, 1914.

CHART 14—Comparative Chart, Demonstrating Excess of Deaths from Typhoid Fever in the Colored Population of Rural Maryland, Deaths per 10,000 of White and Colored Population by Counties.



In Table XXVI the principal diseases are divided according to the percentages occurring in the three periods of life already used, with the exception of senile debility, congenital debility, infantile convulsions, unspecified and ill-defined causes, the three former of which fall by reason of their classification in only one period of life.

Deaths in the middle period of life have an importance from the economic standpoint far greater than those occurring in either extreme. In Chart 15, the principal causes of death are arranged according to their importance as causes of death, between the ages of 15 and 45 years, for the State of Maryland.

Tuberculosis of the lungs still easily retains first place on this chart. Accidental violence, which ranks tenth in Table XXI comes in second with this arrangement; typhoid fever is third, and Bright's disease fourth. A number of diseases which bear a high ratio to the total number of deaths do not occupy important positions as causes of death in the age period of 15-45.

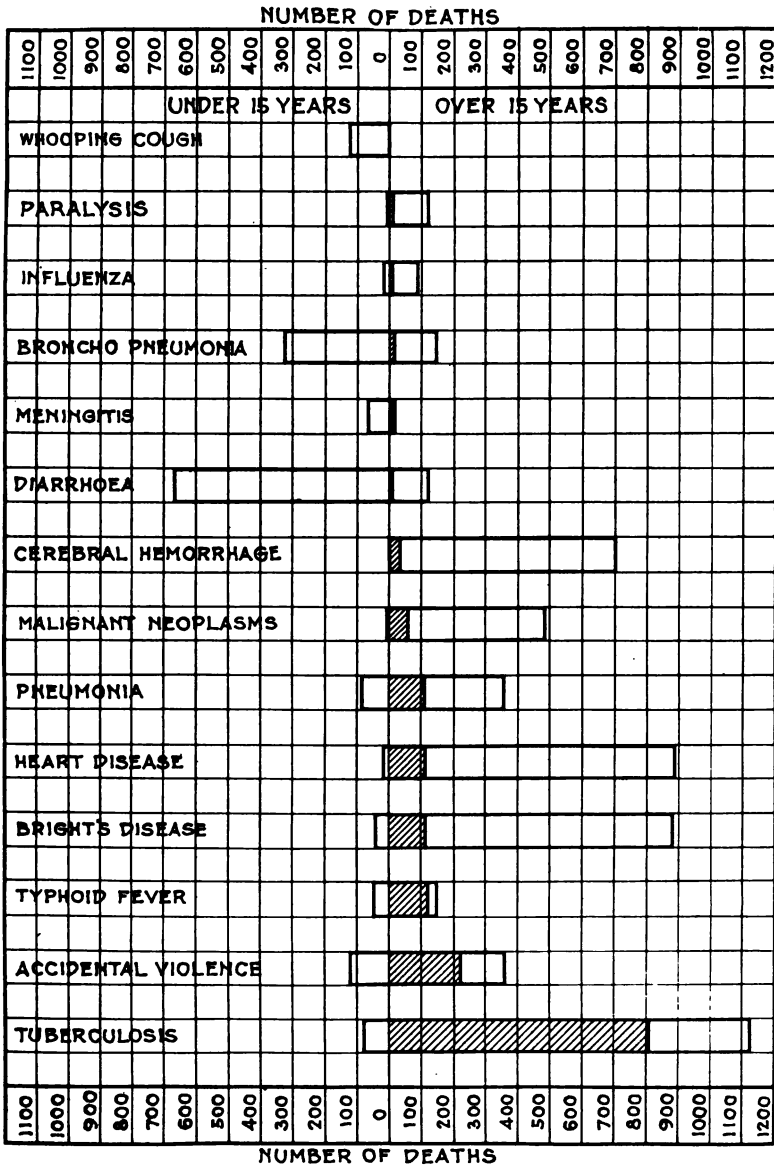


CHART 15—Principal Causes of Death, Classified According to Their Importance in the Middle Period of Life.

TABLE XXVI.

DEATHS FROM FIFTEEN PRINCIPAL CAUSES IN MARYLAND (EXCLUSIVE OF BALTIMORE CITY)—1914—SHOWING NUMBER AND PERCENTAGE OF DEATHS IN EACH OF THREE AGE PERIODS.

TYPHOID FEVER—		
	<i>Number.</i>	<i>Per Cent. in Each Period.</i>
Under 15 .....	47	23.86
15 to 45.....	122	61.93
45 and over.....	27	13.71
Age unknown .....	1	0.51
Total.....	197	
PARALYSIS—		
Under 15 .....	1	0.81
15 to 45.....	10	8.13
45 and over.....	112	91.06
Age unknown .....	....	.....
Total.....	123	
BRIGHT'S DISEASE—		
Under 15 .....	40	4.32
15 to 45.....	118	12.74
45 and over.....	762	82.29
Age unknown .....	6	0.65
Total.....	926	
WHOOPIING COUGH—		
Under 15 .....	121	100.00
15 to 45.....	....	.....
45 and over.....	....	.....
Age unknown .....	....	.....
Total.....	121	
HEART DISEASE—		
Under 15 .....	16	1.75
15 to 45.....	116	12.71
45 and over.....	769	84.23
Age unknown .....	12	1.31
Total.....	913	
MALIGNANT NEOPLASMS—		
Under 15 .....	5	1.02
15 to 45.....	63	12.91
45 and over.....	419	85.86
Age unknown .....	1	0.20
Total.....	488	
BRONCHO-PNEUMONIA—		
Under 15 .....	326	68.92
15 to 45.....	23	4.86
45 and over.....	124	26.22
Age unknown .....	....	.....
Total.....	473	

TABLE XXVI—*Continued.*

	<i>Number.</i>	<i>Per Cent. in Each Period.</i>
<b>ACCIDENTAL VIOLENCE—</b>		
Under 15 .....	118	23.74
15 to 45.....	225	45.27
45 and over.....	134	26.96
Age unknown .....	20	4.02
Total.....	497	
<b>TUBERCULOSIS (LUNGS AND LARYNX)—</b>		
Under 15 .....	78	6.43
15 to 45.....	806	66.39
45 and over.....	323	26.61
Age unknown .....	7	0.58
Total.....	1,214	
<b>PNEUMONIA—</b>		
Under 15 .....	86	19.24
15 to 45.....	113	25.28
45 and over.....	247	55.26
Age unknown .....	1	0.22
Total.....	447	
<b>CEREBRAL HEMORRHAGE—</b>		
Under 15 .....	.....	.....
15 to 45.....	35	4.96
45 and over.....	666	94.33
Age unknown .....	5	0.71
Total.....	706	
<b>DIARRHOEA AND ENTERITIS—</b>		
Under 15 .....	669	84.47
15 to 45.....	11	1.39
45 and over.....	111	14.02
Age unknown .....	1	0.13
Total.....	792	
<b>INFLUENZA—</b>		
Under 15 .....	16	14.95
15 to 45.....	8	7.48
45 and over.....	83	77.57
Age unknown .....	.....	.....
Total.....	107	
<b>MENINGITIS—</b>		
Under 15 .....	62	84.98
15 to 45.....	5	6.85
45 and over.....	6	8.22
Age unknown .....	.....	.....
Total.....	73	

TABLE XXVI—Continued.

	Number.	Per Cent. in Each Period.
OTHER CAUSES—		
Congenital Debility (under 1 year).....	707	
Senile Debility (over 55 years).....	278	
Convulsions of Children (less than 10 years).....	71	
Unspecified or Ill-Defined Causes. . . . .	309	

The age distribution of the principal causes of death is shown in Charts Nos. 16, 17, 18, 19 and 20. The age distribution of the general mortality is shown in Chart No. 16. These charts illustrate the age distribution of the principal causes of death, with the exception of senile debility, congenital debility and infantile convulsions (whose age distribution is fixed by their classification) and the unclassified diseases. By referring to Chart No. 16 it will be seen that, as has been shown in previous charts, a great portion, 25.73%, of the general mortality occurs under the age of 5. The percentage rapidly declines to the ages between 10 and 15 years, 1.63% when the lowest actual mortality is reached. The percentage of deaths thereafter remains fairly constant until after the age period 50-55 when it increases. The general percentage ranges below 5% for all periods after the first quinquennium until the age period of 65 to 70 years. The percentage of deaths from lobar pneumonia has a large distribution corresponding closely to that of the general mortality. If the pneumonia and broncho-pneumonia curves were combined, the analogy would appear even more striking. This fact shows that the term pneumonia as generally employed, is composite, and relates to a number of diseases, mostly infectious, of which pneumonia is the terminal or secondary symptom. Both pneumonia and broncho-pneumonia are important causes of death only at the extremes of life. After the age of 10 years broncho-pneumonia becomes a small factor in the mortality, except for persons over 65, although it will be seen from the chart the largest proportion of deaths from this cause is in the first 5 years of life. Broncho-pneumonia and whooping cough have an almost wholly infantile distribution. 95.04% of the deaths from whooping cough occur in the first five years of life; 4.96% in the age period of 5-10. 57.30% of all deaths from

diphtheria appears in the first quinquennium and 30.34% in the second.

Organic diseases of the heart, malignant neoplasms, cerebral hemorrhage, paralysis and Bright's disease occur almost entirely in the late periods of life. The mortality from cerebral hemorrhage rises above 5% at the 50th year, and increases rapidly thereafter and reaches its maximum between 70 and 75. Malignant neoplasms rise above 5% at from 40 to 45 and reaches its greatest height at 55-60. Bright's disease rises above 5% between 45 and 50; paralysis between 55 and 60 and organic heart disease between 45 and 50.

*Tuberculosis*—The greatest number of deaths from pulmonary tuberculosis occurs in early adult life. It will be noted in the chart that the percentage remains low to the 15th year when there is a rapid rise, the curve reaching its maximum between 25 and 30 years, declining slowly until it reaches the 75th year.

*Typhoid Fever*—The greater number of deaths from typhoid fever occur in early adult life. The maximum is reached at 15-20 years.

The curve for accidental violence has two apices—one in the first quinquennial period, and the other in the fifth quinquennial period. That is, the periods of danger from accidental violence are infancy and adolescence. The causes of accidental violence in infancy are due to the inability of the children to protect themselves and to the carelessness of parents. Burns and scalds account for a large portion of this mortality, and accidental drowning for a further considerable portion. A large number of these deaths are among the children of colored persons and foreigners, and are due, on the one hand, to the carelessness in handling fire, and on the other, to the ready access to water afforded by the Maryland coast line and Chesapeake Bay and its tributaries. The high mortality at ages from 20-25 may be accounted for by the fact that a large number of men at this age are employed in hazardous industries, and compelled to handle machinery and work in perilous positions without proper safety appliances. The percentages are shown in Table XXVII.

## REPORT OF THE

TABLE XXVII.

AGE DISTRIBUTION OF MORTALITY FROM TWELVE DISEASES BY PERCENTAGES, RURAL DISTRICTS, 1914.

<i>Causes of Death.</i>	0 to 5	5 to 10	10 to 15	15 to 20	20 to 25	25 to 30	30 to 35	35 to 40	40 to 45	45 to 50	50 to 55	55 to 60	60 to 65	65 to 70	70 to 75	75 to 80	80 & Over	Unknown
Typhoid Fever .....	4.57	4.57	14.72	18.27	12.69	10.66	5.58	9.14	5.58	4.57	3.05	2.54	0.51	0.51	1.02	1.52	0.00	0.51
Whooping Cough .....	95.04	4.96	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Tuberculosis (Pul.) ...	2.72	0.91	2.80	10.71	13.10	13.59	10.54	9.80	8.65	6.26	5.11	4.86	3.71	3.13	2.22	0.74	0.58	0.58
Pneumonia (Lobar) ...	15.21	2.91	1.12	5.59	4.03	2.91	3.80	3.36	5.59	4.25	5.37	6.94	7.61	6.26	8.72	8.50	7.61	0.22
Broncho-Pneumonia ...	65.96	2.33	0.63	0.85	0.63	1.06	0.85	0.63	0.85	1.27	1.06	4.23	2.11	3.38	4.65	4.23	5.29	0.00
Organic Heart Disease..	0.22	0.44	1.10	1.31	0.88	1.97	1.20	2.96	4.38	5.15	5.59	9.20	8.54	15.66	14.35	11.17	14.57	1.31
Paralysis.....	0.81	0.00	0.00	0.00	0.00	0.00	1.63	3.25	3.25	3.25	3.25	6.50	6.50	13.82	23.58	17.07	17.07	0.00
Bright's Disease .....	2.16	1.08	1.08	0.65	1.62	1.84	2.38	3.02	3.24	5.62	6.91	8.21	10.48	11.77	13.61	13.28	12.42	0.65
Accidental Violence ...	13.08	5.43	5.23	8.05	10.87	7.85	6.24	5.84	6.44	6.04	4.63	3.82	3.02	2.21	2.41	2.21	2.62	4.02
Malignant Neoplasms... 0.61	0.00	0.41	0.61	0.21	0.61	0.61	0.61	4.30	6.56	6.15	11.27	13.98	13.52	12.91	12.70	8.61	6.76	0.21
Diphtheria.....	57.30	30.34	8.99	1.12	1.12	0.00	0.00	0.00	1.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Cerebral Hemorrhage...	0.00	0.00	0.00	0.00	0.00	0.14	0.42	1.84	2.55	3.54	8.92	8.92	10.62	15.16	17.00	13.74	16.43	0.71
Deaths, all causes.....	25.73	1.89	1.63	3.18	3.59	3.68	3.07	3.67	4.00	3.91	4.52	5.40	5.56	6.87	7.60	6.67	8.36	0.76

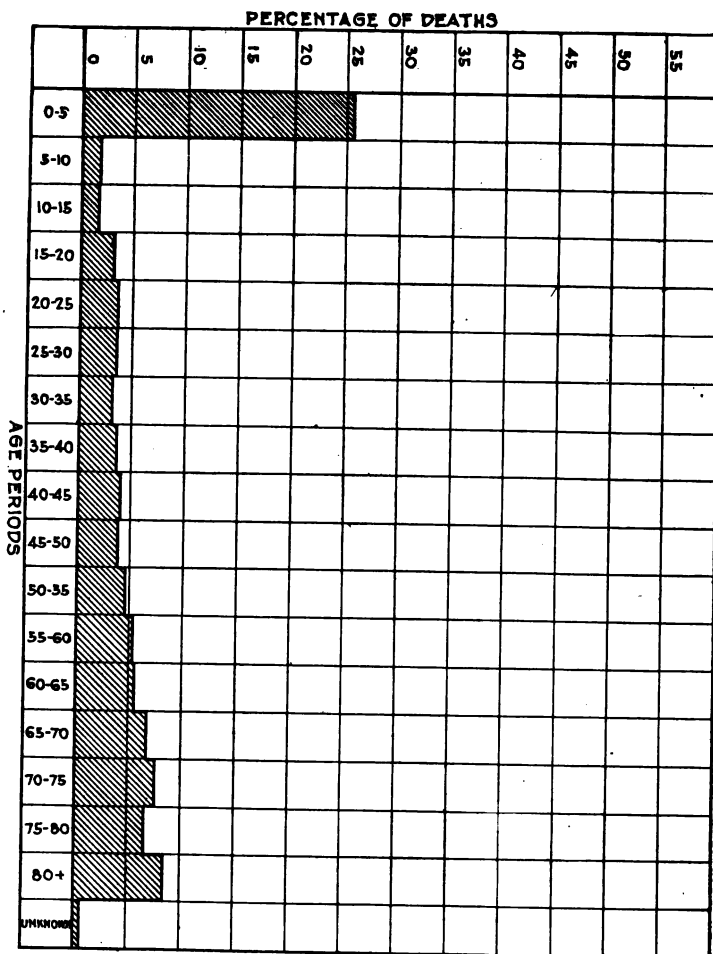


CHART 16—*Age Distribution of General Mortality, 1914.*



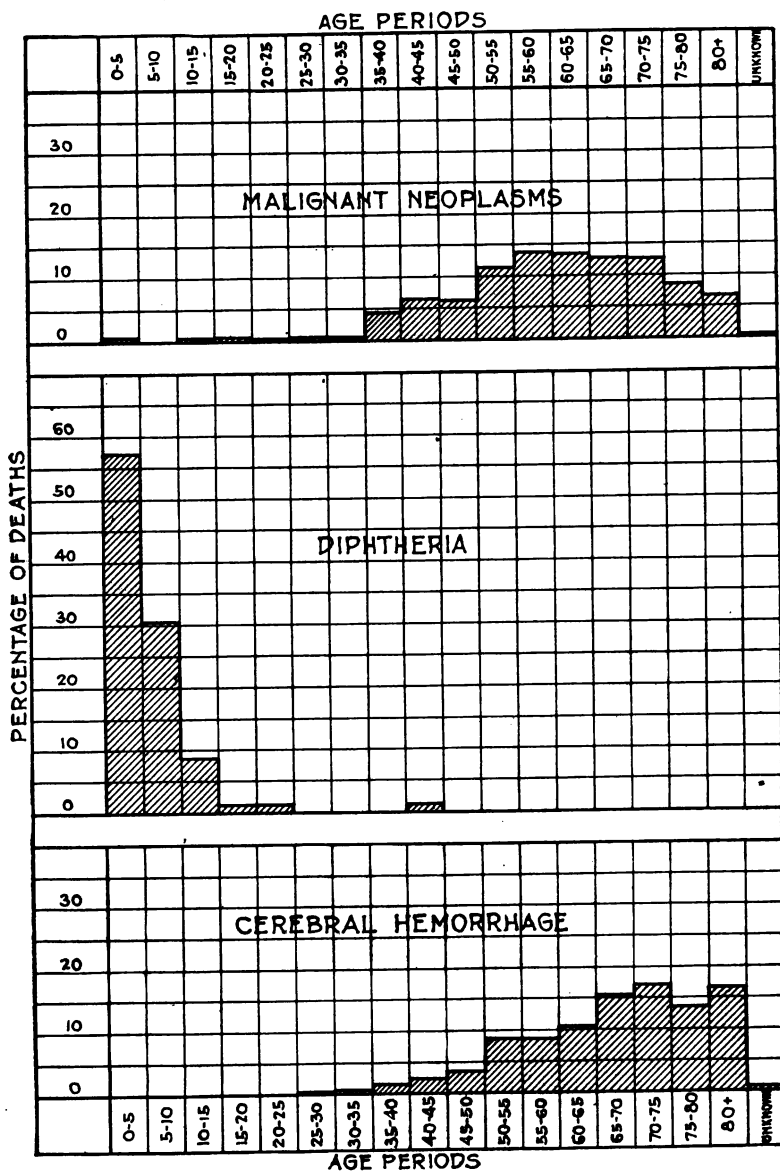


CHART 17.

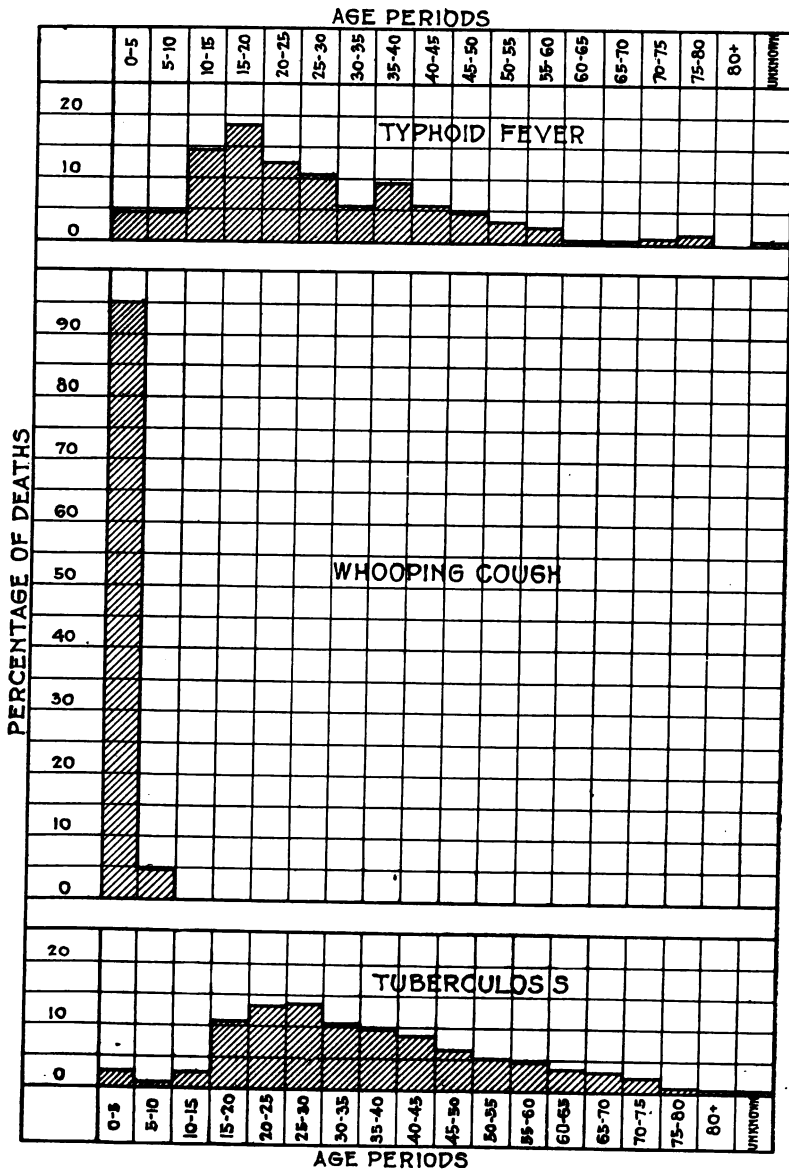


CHART 18.

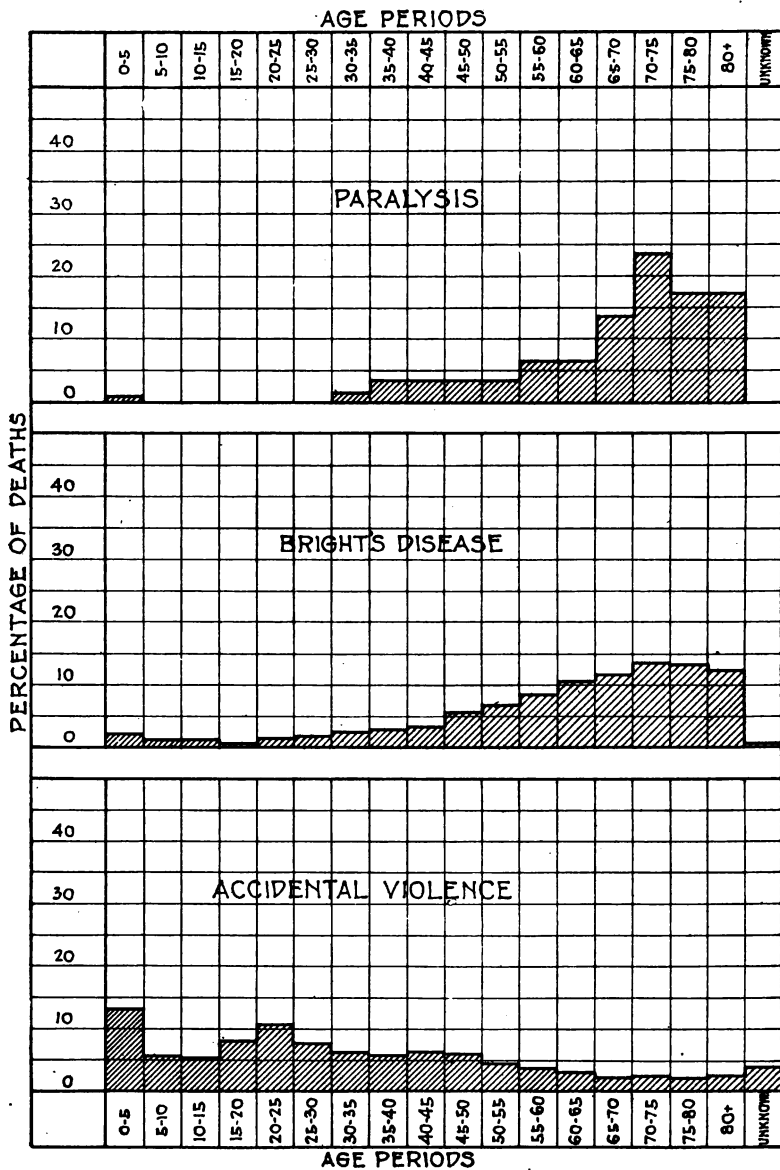


CHART 19.

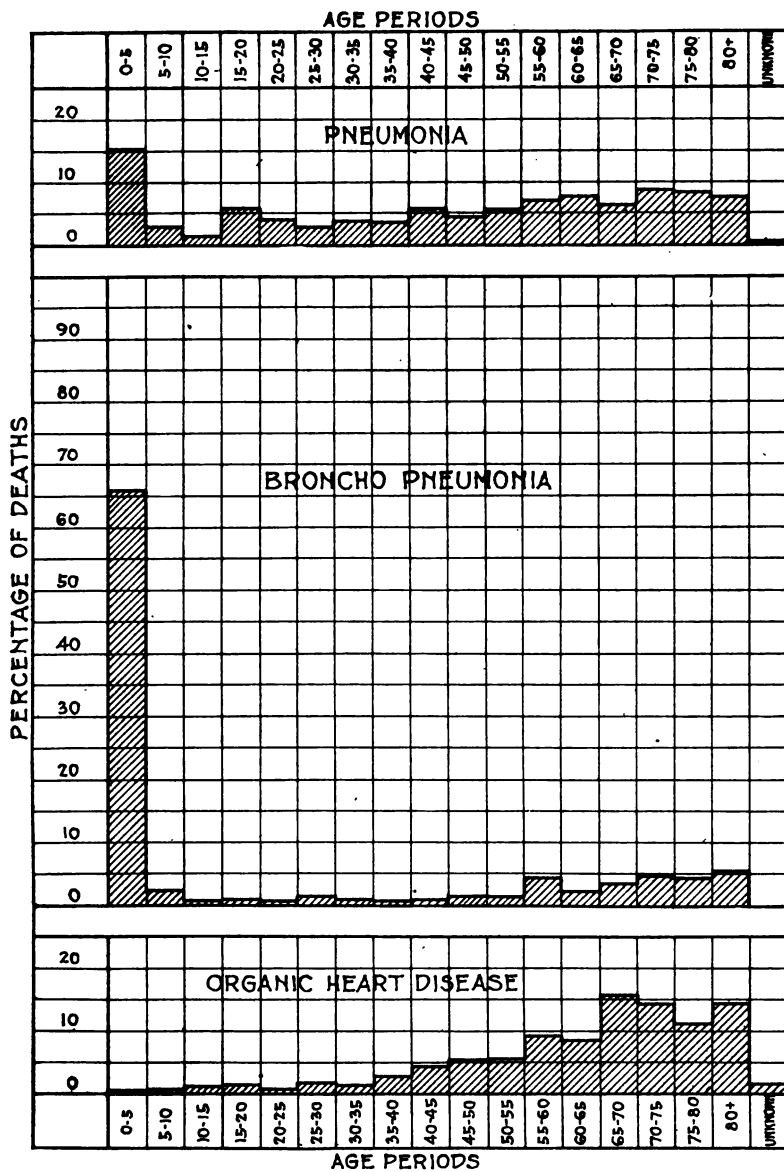


CHART 20.

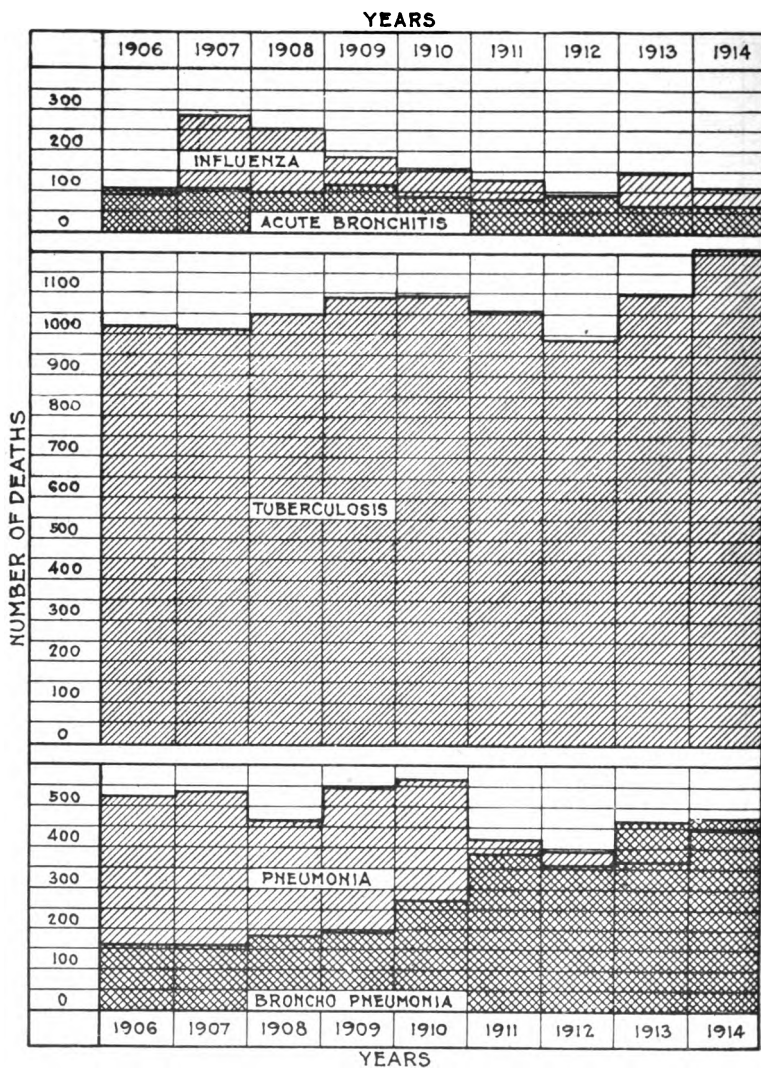


CHART 21—Mortality from Five Respiratory Diseases, 1906-1914.

TABLE XXVIII.

DEATHS FROM FIVE PRINCIPAL RESPIRATORY DISEASES IN RURAL MARY-  
LAND, 1906-1914, INCLUSIVE.

	DEATHS.								PERCENTAGE OF TOTAL MORTALITY.									
	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Influenza.....	90	287	251	186	156	130	91	145	107	0.95	2.93	2.55	1.91	1.60	1.31	0.90	1.33	0.99
Acute Bronchitis..	102	103	99	115	87	80	92	66	66	1.08	1.05	1.01	1.18	0.89	0.81	0.91	0.61	0.61
Broncho-Pneum...	159	159	182	194	269	383	358	463	473	1.68	1.62	1.85	1.99	2.75	3.87	3.53	4.26	4.37
Pneumonia.....	527	534	469	548	568	420	393	366	447	5.57	5.45	4.76	5.61	5.81	4.25	3.87	3.36	4.13
Pulmonary Tuberc	1,019	1,013	1,049	1,089	1,094	1,058	989	1,090	1,214	10.77	10.35	10.65	11.16	11.19	10.70	9.74	10.10	11.21
Total Deaths...	9,458	9,792	9,849	9,762	9,775	9,886	10,156	10,880	10,832									

It will be seen by reference to the preceding table that the influenza figures have shown marked variations. The heaviest influenza mortality occurred in the year 1907, 287 deaths, or a proportionate mortality of 2.93%. This was followed by a decline in the deaths from this cause and the year 1912 gave the lowest number for a period of six years. In 1913 deaths from influenza had risen to 145 with a total of 107 in 1914. As a matter of fact deaths from influenza, acute bronchitis and broncho-pneumonia should be to a great extent considered collectively since these infections of the respiratory tract depend, in all probability, on the same infectious agents. In general it might be stated that so far as reported deaths are concerned when there is a rise in the mortality from influenza there is a corresponding rise in the mortality of either acute bronchitis or broncho-pneumonia. There were fewer deaths from lobar pneumonia during the year 1913 than any year during the past nine years while the number in 1914 is the greatest during the past four years. The mortality figures for pulmonary tuberculosis in the Rural Districts do not represent with fairness the status of the tuberculosis mortality. There are, in several counties of the State, tuberculosis sanatoria from which deaths are registered and charged against the districts in which they occur. Although there is an increase in the total number of deaths from tuberculosis throughout the State during the year 1914, an increase from 1,099 to 1,214 is somewhat disproportionate. The association and interdependence of these diseases is shown on the accompanying chart (Chart 21).

TABLE XXIX.

## DEATHS FROM PULMONARY TUBERCULOSIS—MARYLAND.

YEAR.	RURAL DISTRICTS.			BALTIMORE CITY.			MARYLAND.		
	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1907. ....	470	543	1,013	711	606	1,317	1,181	1,149	2,330
1908. ....	469	580	1,049	718	532	1,250	1,187	1,112	2,299
1909. ....	498	591	1,089	718	555	1,273	1,216	1,146	2,362
1910. ....	512	582	1,094	680	554	1,234	1,192	1,136	2,328
1911. ....	499	559	1,058	671	494	1,165	1,170	1,053	2,223
1912. ....	492	497	989	683	506	1,189	1,175	1,003	2,178
1913. ....	521	578	1,099	516	401	917	1,037	979	2,016
1914. ....	592	622	1,214	682	463	1,145	1,274	1,085	2,359
Total. ....	4,053	4,552	8,605	5,379	4,111	9,490	9,432	8,663	18,095
Average for 8 years. ....	507	569	1,076	672	514	1,186	1,179	1,083	2,262
Median Population. ....	378,184	362,821	741,005	269,982	292,056	562,038	648,167	654,876	1,303,043
Death Rate per 10,000. ....	13.41	15.68	14.52	24.89	17.60	21.10	18.19	16.54	17.36



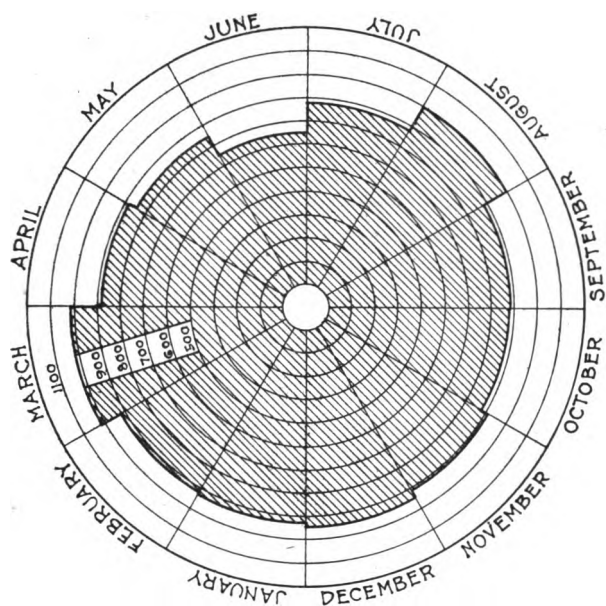
Table XXIX shows deaths from pulmonary tuberculosis male and female, Baltimore City, Rural Districts and the State of Maryland for a period of seven years. Some interesting facts are brought out by this table. It will be seen that in the Rural Districts the death rate among the female portion of the population (15.68 per 10,000) averages considerably higher than in the male (13.41 per 10,000), while in the city of Baltimore, deaths from tuberculosis in the male portion of the population (24.89 per 10,000) averages considerably higher than in the female (17.60 per 10,000). While the figures for the State in the last column show a gratifying decrease for the years 1907 to 1913, inclusive, the deaths in the year 1914 are greater than any during the past seven years. Attention is called to an apparently unfavorable condition in the Rural Districts shown by this table. For instance, in the Total column for the Rural Districts it will be seen that there are reported each year an increasing number of deaths from tuberculosis while, in the Total column for Baltimore City, the number of deaths from tuberculosis decreases. This condition is brought about by the fact that a large number of the tuberculous patients from Baltimore City are sent to sanatoria in the Rural Districts and their deaths are included in the death rate of the county in which the sanatorium is located.

## SEASONAL INCIDENCE OF THE MORTALITY.

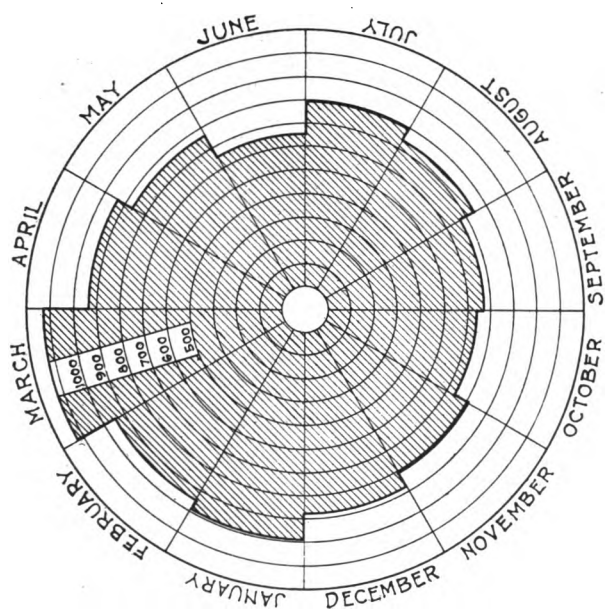
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The seasonal incidence of the general mortality is shown separately for Baltimore and the Rural Districts in Chart No. 22.

It will be seen that the monthly mortality, as shown in the black portion of the charts, is of somewhat oval shape, with the poles lying in the winter and summer months, which are the seasons of greatest mortality. Generally speaking, the mortality may be divided into two classes, diseases of the intestines, prevalent in the summer months, and diseases of the lungs, prevalent in the winter. The gastro-intestinal diseases reach their altitude in the height of the summer. March is the month of greatest mortality in the Rural Districts, and in Baltimore City. June was the month of least mortality in the Rural Districts and October in Baltimore City. The expansion of the black portion of the chart during July and August is due almost entirely to the acute gastro-intestinal diseases of children. The mortality during the winter months is due mainly to pneumonia and influenza. While the summer mortality affects mainly children, the winter mortality affects both extremes of life (infancy and old age). The sudden rise from the months of low mortality, May and June, to the months of high mortality, July and August, produces a very notable eccentricity in the figures. This is more marked in the city, where the mortality increases suddenly during the month of July. In the Rural Districts the rise in the mortality is somewhat slower. The circles on the charts indicate the actual number of deaths in the two specified divisions of Maryland. While the population of Baltimore and the Rural Districts are nearly equal, the mortality in the Rural Districts is considerably higher, as appears in the chart. A comparison of this chart with that of the preceding year shows a marked correspondence in the general figures of the rural and urban districts. The figure of the chart is apparently not subject to many changes, although it may rotate somewhat, either to a later or an earlier season. In the winter months, March furnished the highest mortality. In 1913, July furnished the highest mortality for the Rural Districts and March for Baltimore City.



RURAL DISTRICTS.



BALTIMORE CITY.

CHART 22.

In the following table the deaths by months for six years, ending 1914 are given for Baltimore City and the Rural Districts (Table XXX). From this table it appears that March is the month of greatest mortality in the Rural Districts as well as for Baltimore City. June is the month of least mortality for the Rural Districts and October for Baltimore City.

The seasonal prevalence of eight prominent causes of death are given in the succeeding chart, No. 23.

In considering seasonal prevalence, two classes of diseases must be recognized:

- (1) Acute fatal diseases, where there is a short interval between commencing sickness and the date of death.
- (2) Chronic fatal diseases, where the date of death is separated by a long interval from the date of infection.

The influence of pneumonia and influenza upon the tuberculosis mortality will be seen in a glance at the chart. The chronic degenerative diseases, cerebral apoplexy, heart disease and Bright's disease show little seasonal variation, and are apparently not much dependent upon acute infection. The pneumonia curve and influenza curve always correspond very closely. The gastro-intestinal diseases show a marked antithesis to pneumonia in their seasonal distribution. The mortality from acute gastro-intestinal infections shows the greatest seasonal variation of any of these diseases, as already observed. To illustrate the striking influence of pneumonia upon tuberculosis, the curves of these diseases, together with those of acute bronchitis and broncho-pneumonia, have all been introduced in Chart No. 23.

TABLE XXX.

DEATHS BY MONTHS FOR 1914, 1913, 1912, 1911, 1910 AND 1909.

	RURAL DISTRICTS.						BALTIMORE CITY.							
	1914.	1913.	1912.	1911.	1910.	1909.	Total 6 Yrs.	1914.	1913.	1912.	1911.	1910.	1909.	Total 6 Yrs.
January.....	928	888	901	902	918	829	5,366	989	935	996	993	1,067	875	5,855
February.....	923	876	885	843	926	772	5,225	943	914	925	871	968	757	5,378
March.....	1,015	991	899	953	868	910	5,636	1,129	955	1,056	989	940	984	6,053
April.....	879	846	790	803	794	871	4,983	937	837	869	932	875	986	5,436
May.....	845	859	744	690	715	723	4,576	865	902	780	902	775	829	5,053
June.....	749	980	678	662	723	787	4,579	757	831	701	728	798	759	4,574
July.....	880	1,144	862	1,004	1,002	985	5,877	897	946	922	929	981	988	5,663
August.....	997	964	964	1,017	919	934	5,785	845	792	830	855	920	910	5,152
September.....	885	818	920	848	839	712	5,022	771	703	747	752	805	808	4,586
October.....	881	900	890	713	820	736	4,940	736	748	836	798	834	835	4,787
November.....	906	807	817	730	839	701	4,800	802	732	850	801	860	772	4,817
December.....	944	807	806	721	855	802	4,935	880	873	929	854	930	873	5,339
Total.....	10,832	10,880	10,156	9,886	10,218	9,762	61,734	10,551	10,168	10,441	10,404	10,753	10,376	62,693

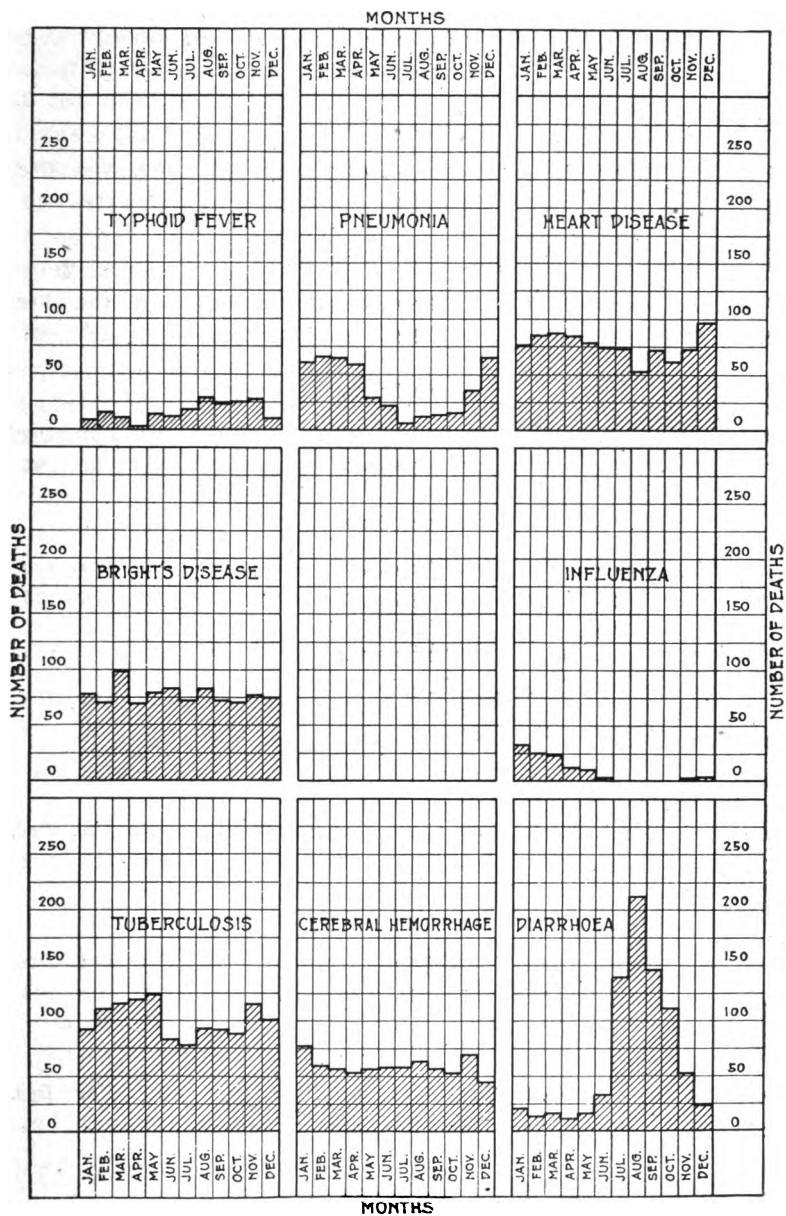


CHART 23.

EIGHT PROMINENT CAUSES OF DEATH BY MONTHS—RURAL  
DISTRICTS—1914.

TYPHOID FEVER.

<i>Jan.</i>	<i>Feb.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
9	16	11	2	14	12	18	29	23	25	28	10

PNEUMONIA (LOBAR).

<i>Jan.</i>	<i>Feb.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
60	66	64	59	29	22	6	12	13	15	36	65

HEART DISEASE.

<i>Jan.</i>	<i>Feb.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
76	85	87	84	77	74	73	53	72	62	73	97

BRIGHT'S DISEASE.

<i>Jan.</i>	<i>Feb.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
77	70	99	69	79	83	72	83	72	71	76	75

INFLUENZA.

<i>Jan.</i>	<i>Feb.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
32	25	24	11	10	2	0	0	0	0	1	2

TUBERCULOSIS (PULMONARY).

<i>Jan.</i>	<i>Feb.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
93	110	116	119	124	83	77	94	92	88	116	102

CEREBRAL HEMORRHAGE.

<i>Jan.</i>	<i>Feb.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
77	60	57	54	57	58	58	64	56	52	69	44

DIARRHOEA.

<i>Jan.</i>	<i>Feb.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>Aug.</i>	<i>Sept.</i>	<i>Oct.</i>	<i>Nov.</i>	<i>Dec.</i>
21	18	16	10	16	32	139	212	146	111	52	24

The succeeding table and chart (Chart 24, Table XXXI), show the comparative susceptibility of the several organs to infection. In general, the table and charts have been arranged so as to show infections of the special organs. The total number of deaths considered in this table is 9,065 or about 42.39% of the total mortality. Certain other important classes of diseases, such as degenerations, congenital diseases and accidents, are not considered in this tabulation.

It will be seen by reference to the table and chart that most of the inflammatory diseases affect the lungs and alimentary canal, infections of the lungs ranking very much higher than those of the other organs.

The special predilection of the tubercle bacillus for the lung has been previously recognized, but the fact that a majority of pathogenic organisms find in the lungs their most favorable habitat is not so well recognized. The organisms of the enteric group are, of course, one exception to this rule.



TABLE XXXI.

## PARASITIC DISEASES SHOWING THE ORGAN AFFECTED.

	<i>Rural Districts.</i>	<i>Baltimore City.</i>	<i>Maryland.</i>
<i>Respiratory Infections.</i>			
Influenza, laryngeal and pulmonary tuberculosis, bronchitis, broncho-pneumonia, pneumonia, pleurisy, pulmonary gangrene.....	2,391	2,594	4,985
<i>Systemic Infections, Principally Respiratory.</i>			
Measles, scarlet fever, whooping cough, diphtheria. ....	271	223	494
<i>Infections of the Alimentary Tract.</i>			
Typhoid fever, cholera, dysentery, abdominal tuberculosis, gastritis, diarrhoea and enteritis, peritonitis, appendicitis.....	1,215	991	2,206
<i>Infections of the Urinary Tract.</i>			
Perinephritis, pyonephrosis, pyelitis, cystitis, nephrolithiasis. ....	17	57	74
<i>Systemic Infections, Principally of the Kidneys.</i>			
Acute nephritis .....	121	130	251
<i>Infections of the Nervous System.</i>			
Rabies, meningeal tuberculosis, encephalitis, meningitis, etanus, chorea.....	131	145	276
<i>Systemic Infections, Not Localized in Any Organ or Tissue.</i>			
Fyemia and septicæmia, general tuberculosis, syphilis. ....	100	171	271
<i>Infections of the Skin.</i>			
Erysipelas, gangrene, abscess and furuncle, dermatitis. ....	37	91	128
<i>Systemic Infections, Principally of the Skin.</i>			
Smallpox. ....	5	3	8
<i>Arthritic Infections.</i>			
Acute rheumatism .....	24	36	60
<i>Systemic Infections, Principally Arthritic.</i>			
Chronic rheumatism, gout.....	23	39	62
<i>Infections of the Female Organs of Reproduction.</i>			
Endometritis, metritis, salpingitis, puerperal septicæmia. ....	45	44	89
<i>Infections of the Liver.</i>			
Cholangitis, hepatitis, cholelithiasis.....	38	42	80
<i>Infections of the Bones.</i>			
Tuberculosis, osteomyelitis .....	30	36	66
<i>Infections of the Blood.</i>			
Malaria. ....	9	6	15
Total.....	4,457	4,608	9,065

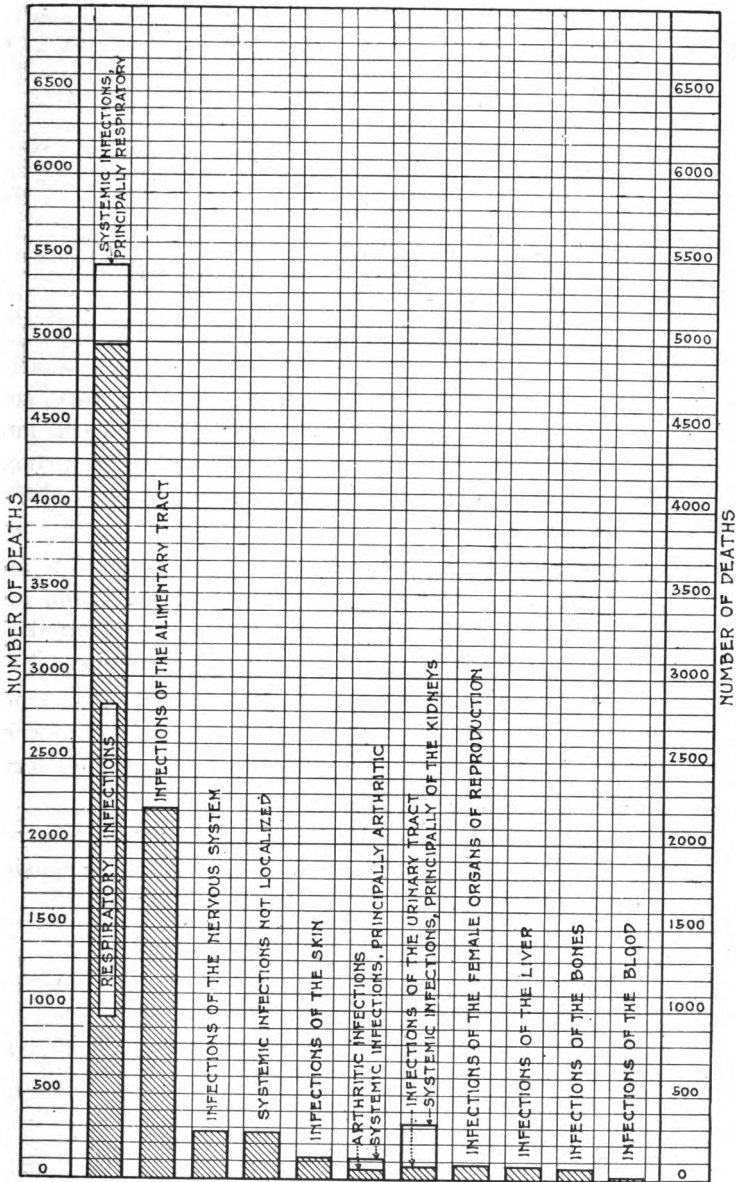


CHART 24—Comparative Susceptibility of the Several Organs to Parasitic Infections—Maryland Mortality, 1914.

## SPECIAL CAUSES OF DEATH.

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Tables A, B and C, at the end of the report on Vital Statistics, give the causes of death, the number of each race and sex, the number dying in each county, the age at death, and the seasonal distribution of the mortality for the 189 principal causes of death recognized in the international classification.

Many of the diseases recognized in this classification are only important causes of mortality during epidemics, and are not commonly prevalent in this State. Others are limited to Europe, or the smaller geographic or climatic divisions.

Among the diseases of the International Classification, from which there were no deaths in Maryland during 1914, were typhus fever, relapsing fever, miliary fever, Asiatic cholera, bubonic plague, yellow fever and leprosy.

The following table which is for comparative purposes gives the number of deaths from certain special causes not considered separately in this report, for a period of ten years.

TABLE XXXII.

## SPECIAL CAUSES OF DEATH, 1914.

## SMALLPOX.

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	1	0	0	0	0	0	0	0	2	5
Baltimore City .....	0	0	0	0	0	0	0	0	0	3
Maryland. ....	1	0	0	0	0	0	0	0	2	8

## RABIES.

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	0	1	0	0	0	0	1	0	1	0
Baltimore City .....	0	1	0	6	1	1	2	0	0	0
Maryland. ....	0	2	0	6	1	1	3	0	1	0

## ALCOHOLISM.

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	28	34	36	37	44	32	39	49	56	36
Baltimore City .....	58	59	53	46	40	49	46	49	57	55
Maryland. ....	86	93	89	83	84	81	85	98	113	91

## OCCUPATIONAL POISONINGS.

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	0	1	1	0	0	0	0	0	0	0
Baltimore City .....	0	1	0	1	1	2	3	0	2	1
Maryland. ....	0	2	1	1	1	2	3	0	2	1

## DISEASES OF THE NERVOUS SYSTEM.

*Encephalitis.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	11	21	11	19	7	14	10	18	10	5
Baltimore City .....	6	1	3	6	1	8	2	2	9	6
Maryland. ....	17	22	14	25	8	22	12	20	19	11

*Meningitis.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	110	130	124	117	107	103	88	101	105	73
Baltimore City .....	144	163	161	140	105	121	101	110	88	61
Maryland. ....	254	293	285	257	212	224	189	211	193	134

*Epilepsy.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	38	39	35	48	30	33	41	44	56	50
Baltimore City .....	21	18	19	18	15	28	19	15	12	22
Maryland. ....	59	57	54	66	45	61	60	59	68	72

TABLE XXXII—*Continued.**General Paralysis of the Insane and Other Forms of Mental Alienation.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	112	85	104	126	65	99	63	94	89	89
Baltimore City .....	39	37	43	38	28	37	32	21	17	34
Maryland. ....	151	122	147	164	93	136	95	115	106	123

## TETANUS.

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	35	32	31	19	29	24	22	26	26	21
Baltimore City .....	19	27	21	15	19	16	23	32	16	16
Maryland. ....	54	59	52	34	48	40	45	58	42	37

## INTESTINAL PARASITES.

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	1	2	4	1	3	5	6	2	7	1
Baltimore City .....	0	0	0	0	0	1	0	0	0	1
Maryland. ....	1	2	4	1	3	6	6	2	7	2

## PREGNANCY.

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	90	105	81	98	102	106	76	106	113	95
Baltimore City .....	102	102	97	92	103	86	87	105	116	84
Maryland. ....	192	207	178	190	205	192	163	211	229	179

## SUICIDE.

*By Poison.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	3	6	12	6	14	2	5	8	20	15
Baltimore City .....	37	26	20	28	31	28	37	30	30	63
Maryland. ....	40	32	32	34	45	30	42	38	50	78

*By Asphyxia.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	1	0	2	2	2	1	0	4	3	0
Baltimore City .....	5	7	10	17	12	11	18	22	35	33
Maryland. ....	6	7	12	19	14	12	18	26	38	33

*By Hanging or Strangulation.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	4	9	13	10	18	14	12	13	15	15
Baltimore City .....	10	14	13	12	11	5	7	6	14	10
Maryland. ....	14	23	26	22	29	19	19	19	29	25

TABLE XXXII—*Continued.**By Drowning.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	4	3	6	4	6	6	5	10	4	3
Baltimore City .....	8	2	4	4	8	4	2	13	5	3
Maryland. ....	12	5	10	8	14	10	7	23	9	6

*By Firearms.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	16	12	22	22	28	20	16	23	39	30
Baltimore City .....	22	20	27	23	30	22	23	21	22	24
Maryland. ....	38	32	49	45	58	42	39	44	61	54

*By Cutting or Piercing Instruments.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	2	2	1	3	3	3	2	6	5	4
Baltimore City .....	5	6	3	7	3	5	5	2	8	4
Maryland. ....	7	8	4	10	6	8	7	8	13	8

*By Jumping from High Places.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	1	0	0	0	0	0	0	0	1	3
Baltimore City .....	1	3	5	4	6	1	7	2	4	1
Maryland. ....	2	3	5	4	6	1	7	2	5	4

*By Crushing or Other Means.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	8	6	2	3	2	1	3	2	1	1
Baltimore City .....	0	2	1	3	0	1	1	2	0	0
Maryland. ....	8	8	3	6	2	2	4	4	1	1

## ACCIDENTAL VIOLENCE.

*Poisoning by Food and Other Acute Poisonings.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	13	17	18	22	26	29	20	15	21	21
Baltimore City .....	20	16	14	23	12	9	6	13	20	29
Maryland. ....	33	33	32	45	38	38	26	28	41	50

*Burns and Scalds and Burns by Corrosive Substances (Conflagration included from 1910 through 1914).*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	55	70	54	68	64	56	50	58	59	69
Baltimore City .....	77	70	81	65	76	86	68	67	69	69
Maryland. ....	132	140	135	133	140	142	118	125	128	138

TABLE XXXII—Continued.

*Absorption of Deleterious Gases (Conflagration included from 1905 through 1909).*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	6	4	5	3	6	13	18	16	19	9
Baltimore City .....	14	12	17	15	12	16	17	14	25	30
Maryland. ....	20	16	22	18	18	29	35	30	44	39

*Accidental Drowning.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	98	90	101	107	98	79	95	115	110	105
Baltimore City .....	47	61	54	55	47	49	45	52	58	46
Maryland. ....	145	151	155	162	145	128	140	167	168	151

*\*Traumatism by Firearms.*

	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	28	21	21	28	30
Baltimore City .....	7	8	1	3	5
Maryland. ....	35	29	22	31	35

*\*Traumatism by Cutting or Piercing Instruments.*

	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	10	4	3	6	3
Baltimore City .....	3	1	0	0	2
Maryland. ....	13	5	3	6	5

*\*Traumatism by Fall.*

	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	22	44	53	66	52
Baltimore City .....	80	91	94	86	100
Maryland. ....	102	135	147	152	152

*\*Traumatism in Mines and Quarries.*

	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	8	10	12	11	25
Baltimore City .....	1	0	1	0	0
Maryland. ....	9	10	13	11	25

*\*Traumatism by Machines.*

	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	4	6	7	7	11
Baltimore City .....	15	9	15	14	6
Maryland. ....	19	15	22	21	17

*\*Traumatism by Crushing (Vehicles, Railroads, Landslides, etc.)*

	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	113	132	155	150	172
Baltimore City .....	93	74	64	96	108
Maryland. ....	206	206	219	246	280

TABLE XXXII—*Continued.**\*Electrical Shock (Lightning excepted.)*

	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	3	4	6	11	4
Baltimore City .....	9	1	6	3	1
Maryland. ....	12	5	12	14	5

*Lightning.*

	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	2	4	7	9	6
Baltimore City .....	0	3	0	0	0
Maryland. ....	2	7	7	9	6

## DROWNING.

*Accidental and Suicidal.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	102	93	107	111	104	85	100	125	114	108
Baltimore City .....	55	63	58	59	55	53	47	55	63	49
Maryland. ....	157	156	165	170	159	138	147	180	177	157

## UNSPECIFIED OR ILL-DEFINED CAUSES.

*Ill-Defined Organic Causes.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	70	40	27	30	36	22	5	4	1	1
Baltimore City .....	10	7	4	9	7	5	6	4	2	0
Maryland. ....	80	47	31	39	43	27	11	8	3	1

*Sudden Death.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	21	26	25	27	44	19	26	31	24	25
Baltimore City .....	6	1	0	0	0	0	0	1	0	0
Maryland. ....	27	27	25	27	44	19	26	32	24	25

*Unspecified Causes.*

	1905.	1906.	1907.	1908.	1909.	1910.	1911.	1912.	1913.	1914.
Rural Districts .....	462	425	503	421	347	437	367	220	208	283
Baltimore City .....	224	280	295	308	326	313	226	85	45	10
Maryland. ....	686	705	798	729	673	750	593	305	253	293

\*Classified under one title, "Other Accidental Traumatisms," during the years 1905, 1906, 1907, 1908 and 1909.



Table XXXII permits of rapid comparative observation for a period of ten years both for the Rural Districts and the City of Baltimore.

During the year 1914 there were 8 deaths from smallpox, 5 in the Rural Districts and 3 in Baltimore City. Except for the year 1913 in which there were 2 deaths from this cause not a single death from smallpox has been recorded for a period of 7 years.

There were 91 deaths from alcoholism in 1914, a decrease of 22 over the previous year.

There were 37 deaths from tetanus, a decrease of 5 over the preceding year. This is the lowest number of deaths from this cause in ten years, except in the year 1908 when there were 34 deaths from this cause. The majority of deaths from tetanus are in infants, and are due to infection of the umbilicus, the larger proportion occurring in the practice of midwives.

There were 209 deaths by suicide in the State in the last year. Of these, 78 were by poison, 33 by asphyxia, 25 by hanging and 54 by firearms. The greater number of suicides by poison and asphyxia occurred in Baltimore City, while on the other hand the majority of suicides by firearms occurred in the Rural Districts. The total suicides in the Rural Districts were 71 and for Baltimore City 138.

The deaths from poisoning by food and other acute poisoning (not homicidal or suicidal) were 50; 21 in the Rural Districts and 29 in Baltimore City.

*Burns, scalds, etc.*, caused 138 deaths in 1914. Most of these deaths occurred in children and were due to clothes catching fire from stoves, open fire-places or bonfires.

*Accidental Drowning*—151 deaths were reported from this cause during 1914. As usual, a majority of these deaths, 105, were reported from the Rural Districts while approximately one-third, 46, were reported from Baltimore City.

*Traumatism by Crushing (vehicles, railroads, landslides, etc.)*—The number of deaths from this cause was 280 and has been on the increase for a number of years. The majority of these accidents occur on railroads and with proper precaution could be avoided. The proportion of deaths from automobile accidents is surprisingly small.

*Lightning*—There were 6 deaths from this cause during 1914, all in the Rural Districts.

## INFANT MORTALITY.

With a total number of 18,015 living births reported and a birth rate of 23.66 per thousand for the Rural Districts of Maryland, we feel as if we have a proper basis to compute a correct infant mortality rate.

Table XXXIII gives the infant mortality rate white and colored in Rural Maryland for the year 1914. The mortality per 1,000 of living births in the white population was 95.88 and in the colored population 199.79, the combined rate white and colored 117.79. Having had no previous experience with these rates they will not be discussed in this report. They are exhibited for what they are worth and for future reference.

TABLE XXXIII.

INFANT MORTALITY RATE—WHITE AND COLORED—RURAL MARYLAND, 1914.

	<i>Total Deaths under 1 Year.</i>	<i>Total Live Births.</i>	<i>Mortality per 1,000 Living Births.</i>
White. . . . .	1,363	14,216	95.88
Colored. . . . .	759	3,799	199.79
Total. . . . .	2,122	18,015	117.79

### PRINCIPAL CAUSES OF INFANT MORTALITY.

The five principal causes of infant mortality are charted 25 and 26. Of the total deaths, 2,122 under one year of age, 1,797 were included in five principal causes, namely, congenital debility (150, 151, 152, International Classification), diarrhoea and enteritis under one year (104 International Classification), bronchitis and pneumonia (89, 90, 91 and 92, International Classification), whooping cough (8, International Classification) and convulsions of children under one year (71, International Classification). The deaths from this cause are charted in ten day periods. The tables on account of their length are not printed.

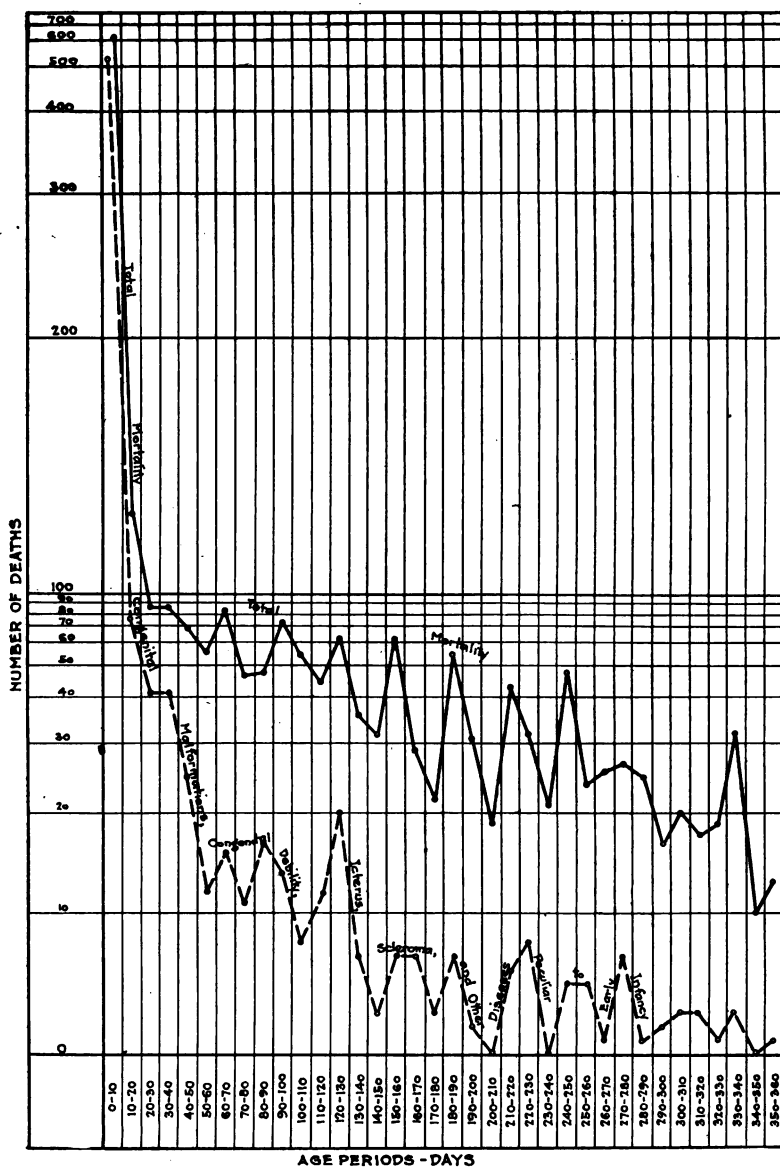


CHART 25.

In Chart 25 deaths from congenital malformations and debility are charted against the total mortality and it is seen that up to the age period of between 20 and 30 days the greater part of the total mortality is brought about by this one cause and, from the 30th day up to the end of the first year, deaths from this cause form a fair portion of the total mortality. Over 41% of the mortality in the first year of life is presented in this chart.

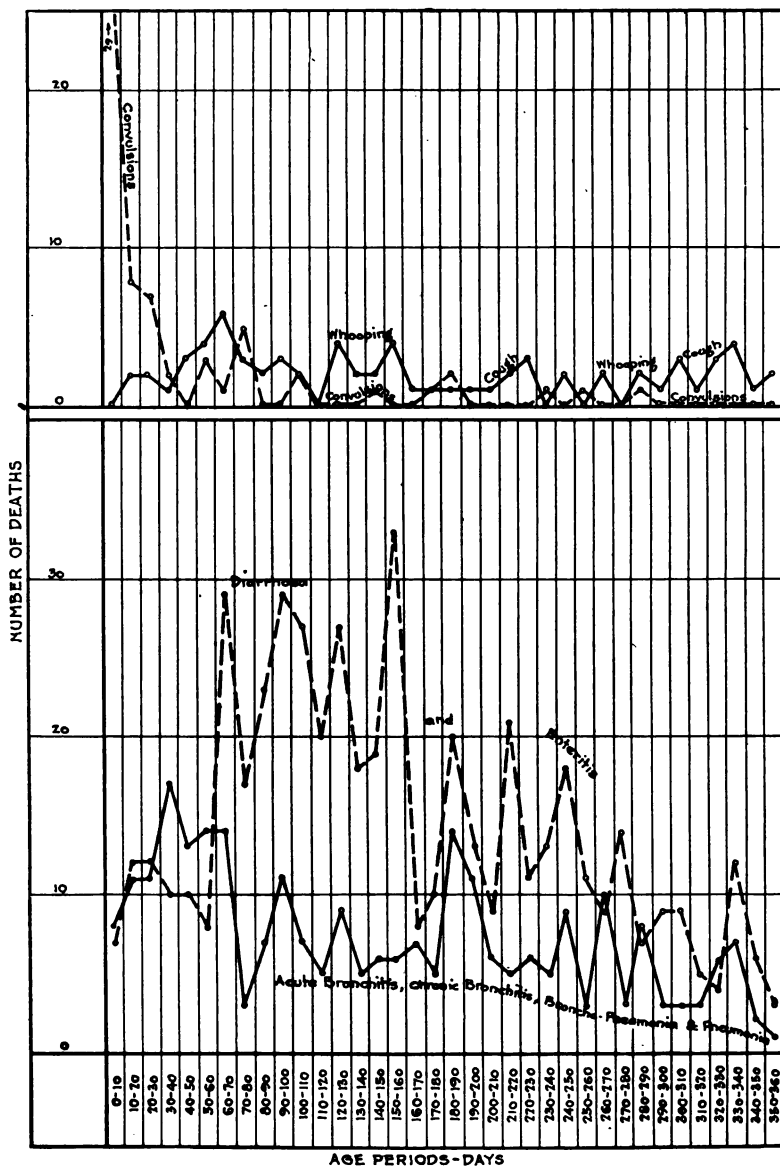


CHART 26.

Chart 26 gives a fair idea of the distribution of the infant mortality from the other four prominent causes of death under one year. The infections of the gastro-intestinal tract are charted against the infections of the respiratory tract in the lower two-thirds of the chart. In general, it may be stated that the respiratory infections give a rather constant death rate at all age periods during the first year while diarrhoea and enteritis give the maximum rates between the 70th and 170th day.

Convulsions of infants under one year are charted against whooping cough in the upper third of Chart 26. The deaths from convulsions of infants during the first 10 or 20 days of life are to a great measure the result of eclampsia and difficult labor. After the 120th day, deaths from this cause do not cut much figure in the infant mortality rate. Whooping cough has been mentioned earlier in this report as one of the twenty principal causes of the general mortality and now we find it upon closer analysis the fourth cause in order of frequency of the infant mortality. The number of deaths from this cause assumes importance early and continues through the first year of life.

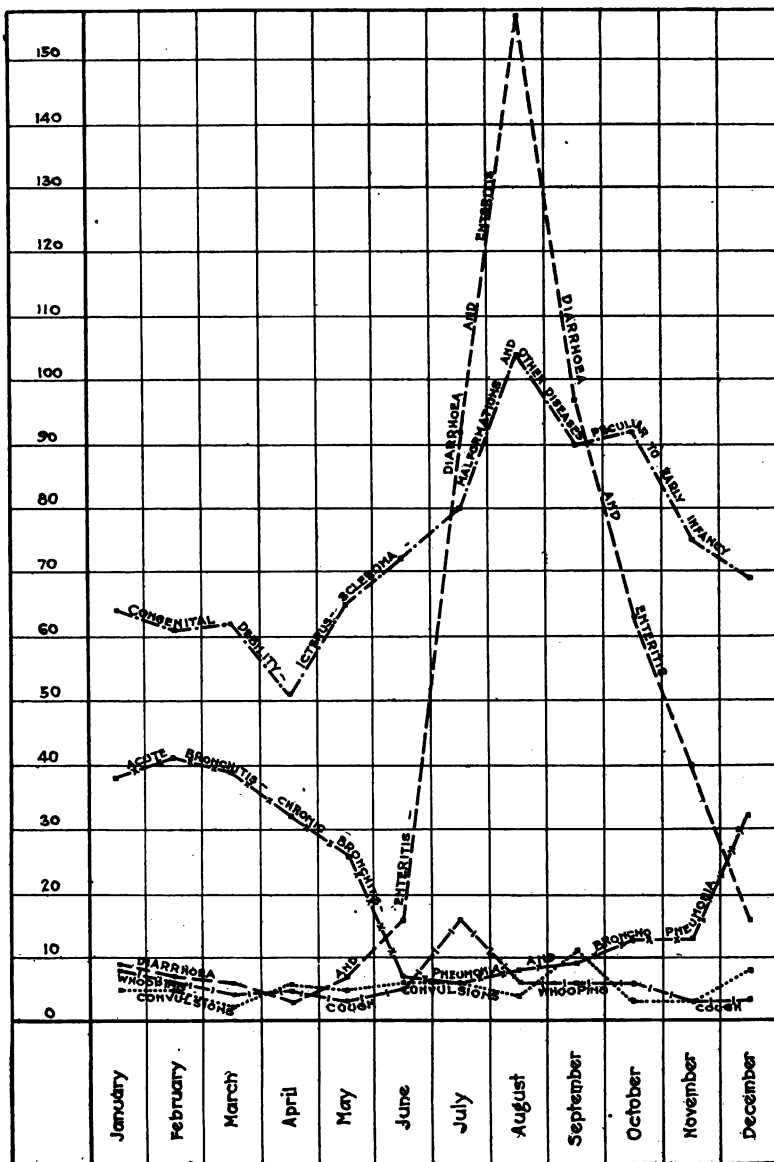


CHART 27.

## SEASONAL INCIDENCE OF INFANT MORTALITY.

Of the five principal causes of death charted in Chart 27, respiratory and gastro-intestinal infections show the usual seasonal variations, whooping cough shows no seasonal variation, while the greatest of all causes, congenital debility, shows a doubtful seasonal variation. In accordance with our previous knowledge, gastro-intestinal infections reach their high level of mortality in July, August and September, and likewise with our previous knowledge of the respiratory infections the greater part of the mortality is to be found during January, February and March. In considering the seasonal distribution of deaths from congenital debility, one would be inclined to feel that the number of births reported in any particular month would have a bearing upon the curve since the majority of these deaths occur within 10 or 20 days after birth. Upon comparing the births by months with the curve as compiled on Chart 27, we find that there is no correlation between the total births reported and the position which the curve of congenital debility occupies on the chart.



## DURATION OF LIFE.

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The main purpose of sanitary organization is to increase the duration of life. The duration of life is usually shown by tables of the mean duration and expectancy of life at given ages. Such tables were considered by Dr. Farr to represent the health and prosperity of the country, and to furnish a fair estimate of its living capital. Dr. Farr considered a table constructed in this way to be a measure of the *life* of the community, and hence it was called by him a *biometer*.

Other tables, popularly used by insurance companies, are tables of *survivorship*, and tables showing the probability of living for a stated period beyond a given age—the *probability of living one year* being generally employed in the construction of this class of tables. Tables of duration of life are open to some objections for sanitary purposes. The extremes of either great or brief duration of life are largely lost, and certain components of the curve, which are of great sanitary importance, are not apparent.

Tables of duration of life are prognostic, the conditions of life in any given year being assumed to remain constant during a future period of years, *i. e.*, 100 or 50 years. The particular question which interests the sanitarian is, at what period of life does the avoidable mortality occur? His problem is directed in general to increasing the duration of life, and the results of the work will be shown by fewer deaths in the early periods of life. The survivors, dying later, must, in proportion to their number, increase the number of deaths at an advanced age. Such tables and charts should illustrate, in the population of the State, under sanitary conditions present in the year of calculation, the number of the population living and the number dead at succeeding age periods.

The "Average Age of Death" may be considered in connection with the duration of life. This measurement is determined by adding the ages of the decedents and dividing them by the number of decedents. The fallacy that an increase in the average age at death indicates a corresponding increase

in the duration of life must be avoided. It is evident that in communities, made up of young adults and children, the average age at death will be low, while later, as the older portion of the population becomes numerous, the average age at death will be high, though there may have been no change in the death rate.

In 1914 there were 10,832 deaths in the Rural Districts of Maryland. Of these, 10,750 occurred at known ages. Taking the sum of these ages, the 10,750 persons were found to have lived 434,347.692 years, giving an average age at death of 40.404 years. This number should be identical with the duration of life in a fixed population, therefore, the term "presumptive duration of life" may be applied to this factor in the succeeding table. The table of presumptive duration and presumptive expectancy is constructed as follows:

If we tabulate the decedents dying over the age of one year during 1914, we find 8,647 persons to have died, after living a total of 433,809.589 years, giving an average age at death of 50.169 years. This figure is entered in the table, under the heading "Presumptive Duration of Life." Since this figure includes one year which has already been lived, the expectation of those decedent over one year will be, at the age of one year, 49.169 years. This factor appears in the table, under the heading "Presumptive Expectation of Life."

The factors of this calculation are shown in the first two columns of Table XXXIV, while in the last two columns, headed respectively "Presumptive Duration" and "Presumptive Expectancy," are given the presumptive expectation and duration of life by one-year periods.

To determine the total years lived by any number of decedents, it is necessary to add the ages of all the decedents and divide the sum of years by the number of decedents. This method involves considerable labor, and vital statisticians generally use the median age between the two age periods, multiplied by the number of decedents during the period.

By the aid of the Hollerith Tabulating machine it has been possible for us to use the exact age of each individual of the 10,750 decedents of known ages in the Rural Districts of Maryland and secure a very accurate result. The ages being returned by years and months, the months are entered as decimal fractions of a year.

All registrations in which the number of days of the age of the decedent was given were returned with an additional month, if over fifteen days, and the additional days dropped, if under fifteen days.

Thus the maximum error of any individual entry was only 0.0416 years. In any large series of entries the error should not exceed 0.001.

The following decimals were used for months, each being carried to the third place—one month, .083; two months, .166; three months, .249; four months, .333; five months, .416; six months, .499; seven months, .583; eight months, .686; nine months, .749; ten months, .833; eleven months, .916; twelve months, 1.000.

By reference to Table XXXIV it will be seen that the presumptive duration of life steadily increases from the third year upwards, and the presumptive expectancy steadily diminishes.

The presumptive expectancy of life is greatest at 3 years, being greater than at birth (50.502, as compared with 49.169). At birth the expectancy and duration of life are identical, but after birth the expectancy increases to the third year, and thereafter steadily decreases, although the expectancy remains above that at birth up to the eleventh year.

While the table of presumptive expectation and duration of life is not to be relied upon as an accurate measure of real expectation of life, such as is furnished by actuarial tables, its simplicity of construction and value for purposes of comparison give it a place in all our reports on vital statistics.

The figures over the age of 80 years are only included in the table for the interest they may possess, as they have no value for comparison, owing to the small number of entries and the great annual fluctuation in deaths over 80.

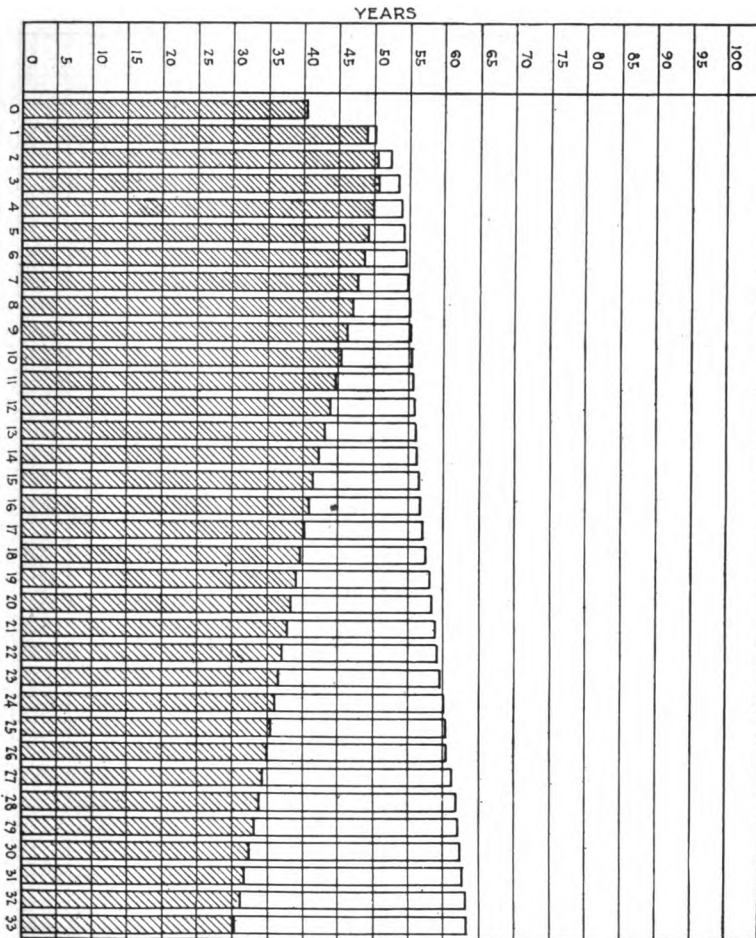
TABLE XXXIV.

PRESUMPTIVE EXPECTANCY AND DURATION OF LIFE—RURAL DISTRICTS—  
MARYLAND—1914.

<i>Deaths over the Age of</i>	<i>Number.</i>	<i>Total Years Lived.</i>	<i>Presumptive Duration—Years.</i>	<i>Presumptive Expectancy.</i>
1 Year.....	8,647	433,809.589	50.169	49.169
2 Years.....	8,262	433,291.433	52.444	50.444
3 Years.....	8,091	432,885.564	53.502	50.502
4 Years.....	8,016	432,628.918	53.971	49.971
5 Years.....	7,964	432,399.074	54.294	49.294
6 Years.....	7,909	432,101.375	54.634	48.634
7 Years.....	7,865	431,822.087	54.904	47.904
8 Years.....	7,826	431,532.858	55.141	47.141
9 Years.....	7,788	431,216.106	55.369	46.369
10 Years.....	7,759	430,942.894	55.541	45.541
11 Years.....	7,726	430,597.188	55.734	44.734
12 Years.....	7,687	430,153.213	55.959	43.959
13 Years.....	7,661	429,831.706	56.106	43.106
14 Years.....	7,619	429,267.375	56.342	42.342
15 Years.....	7,582	428,735.584	56.547	41.547
16 Years.....	7,528	427,902.812	56.842	40.842
17 Years.....	7,463	426,844.027	57.194	40.194
18 Years.....	7,378	425,369.138	57.654	39.654
19 Years.....	7,312	424,158.133	58.008	39.008
20 Years.....	7,240	422,761.445	58.392	38.392
21 Years.....	7,157	421,076.501	58.834	37.834
22 Years.....	7,092	419,684.493	59.177	37.177
23 Years.....	7,013	417,923.084	59.593	36.593
24 Years.....	6,920	415,754.122	60.080	36.080
25 Years.....	6,850	414,053.739	60.446	35.446
26 Years.....	6,763	411,849.447	60.897	34.897
27 Years.....	6,692	409,981.835	61.264	34.264
28 Years.....	6,607	407,658.544	61.701	33.701
29 Years.....	6,536	405,649.122	62.064	33.064
30 Years.....	6,461	403,448.928	62.444	32.444
31 Years.....	6,403	401,695.574	62.736	31.736
32 Years.....	6,342	399,782.658	63.037	31.037
33 Years.....	6,271	397,491.772	63.386	30.386
34 Years.....	6,197	395,025.912	63.745	29.745
35 Years.....	6,129	392,694.400	64.072	29.072
36 Years.....	6,063	390,371.715	64.386	28.386
37 Years.....	5,987	387,610.082	64.742	27.742
38 Years.....	5,921	385,146.359	65.048	27.048
39 Years.....	5,824	381,429.527	65.493	26.493
40 Years.....	5,732	377,808.925	65.912	25.912
41 Years.....	5,635	373,905.085	66.354	25.354
42 Years.....	5,557	370,683.270	66.706	24.706
43 Years.....	5,470	367,003.498	67.094	24.094
44 Years.....	5,396	363,799.308	67.420	23.420
45 Years.....	5,301	359,591.329	67.835	22.835
46 Years.....	5,213	355,611.650	68.216	22.216
47 Years.....	5,139	352,182.637	68.531	21.531
48 Years.....	5,041	347,545.519	68.944	20.944
49 Years.....	4,959	343,583.974	69.285	20.285
50 Years.....	4,877	339,535.393	69.620	19.620
51 Years.....	4,769	334,110.924	70.059	19.059

TABLE XXXIV—Continued.

<i>Deaths</i>			<i>Presumptive</i>	
<i>over the Age of</i>	<i>Number.</i>	<i>Total Years Lived.</i>	<i>Duration—Years.</i>	<i>Expectancy.</i>
52 Years.....	4,702	330,671.058	70.326	18.326
53 Years.....	4,597	325,183.829	70.738	17.738
54 Years.....	4,506	320,336.211	71.091	17.091
55 Years.....	4,386	313,816.429	71.550	16.550
56 Years.....	4,264	307,069.312	72.014	16.014
57 Years.....	4,135	299,806.246	72.505	15.505
58 Years.....	4,017	293,039.319	72.950	14.950
59 Years.....	3,908	286,678.831	73.357	14.357
60 Years.....	3,802	280,389.838	73.748	13.748
61 Years.....	3,648	271,114.165	74.319	13.319
62 Years.....	3,556	265,471.646	74.655	12.655
63 Years.....	3,433	257,810.223	75.098	12.098
64 Years.....	3,306	249,771.380	75.551	11.551
65 Years.....	3,201	243,019.762	75.920	10.920
66 Years.....	3,020	231,206.814	76.559	10.559
67 Years.....	2,901	223,313.713	76.978	9.978
68 Years.....	2,765	214,154.922	77.452	9.452
69 Years.....	2,619	204,182.363	77.962	8.962
70 Years.....	2,456	192,870.699	78.530	8.530
71 Years.....	2,260	179,102.216	79.249	8.249
72 Years.....	2,114	168,684.648	79.794	7.794
73 Years.....	1,953	157,039.497	80.400	7.400
74 Years.....	1,787	144,859.326	81.063	7.063
75 Years.....	1,630	133,190.605	81.712	6.712
76 Years.....	1,462	120,537.512	82.447	6.447
77 Years.....	1,314	109,241.647	83.137	6.137
78 Years.....	1,182	99,023.306	83.776	5.776
79 Years.....	1,039	87,815.591	84.519	5.519
80 Years.....	914	77,891.468	85.220	5.220
81 Years.....	749	64,641.979	86.304	5.304
82 Years.....	663	57,640.737	86.939	4.939
83 Years.....	586	51,301.043	87.544	4.544
84 Years.....	497	43,875.319	88.280	4.280
85 Years.....	411	36,627.274	89.117	4.117
86 Years.....	321	28,952.736	90.195	4.195
87 Years.....	267	24,291.327	90.979	3.979
88 Years.....	213	19,571.802	91.886	3.886
89 Years.....	170	15,771.743	92.775	3.775
90 Years.....	137	12,821.389	93.587	3.587
91 Years.....	95	9,034.400	95.099	4.099
92 Years.....	78	7,481.617	95.918	3.918
93 Years.....	61	5,913.769	96.948	3.948
94 Years.....	53	5,167.336	97.497	3.497
95 Years.....	41	4,036.238	98.445	3.445
96 Years.....	35	3,463.741	98.964	2.964
97 Years.....	28	2,790.076	99.646	2.646
98 Years.....	22	2,206.995	100.318	2.318
99 Years.....	14	1,420.831	101.487	2.487
100 Years.....	12	1,221.998	101.833	1.833
102 Years.....	7	721.998	103.143	1.143
103 Years.....	4	415.249	103.812	0.812
104 Years.....	3	312.000	104.000	0.000
Total.....	10,750	434,347.692	40.404	



**CHART 28A—Presumptive Expectation and Duration of Life—Rural Districts of Maryland, 1914.**

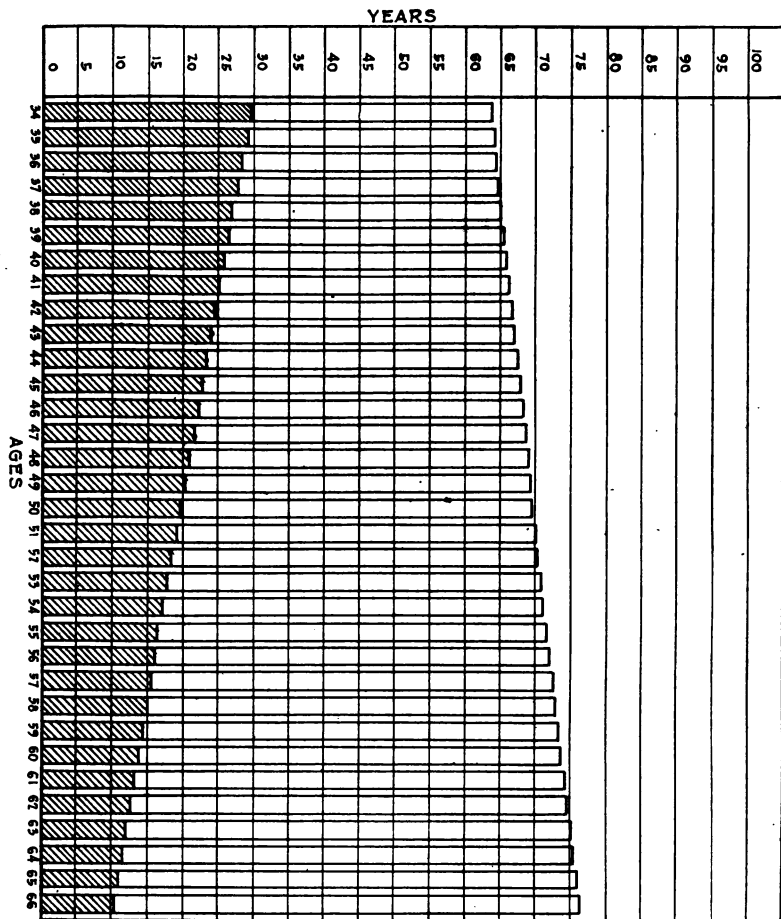


CHART 28B—Presumptive Expectation and Duration of Life—Rural Districts of Maryland, 1914.

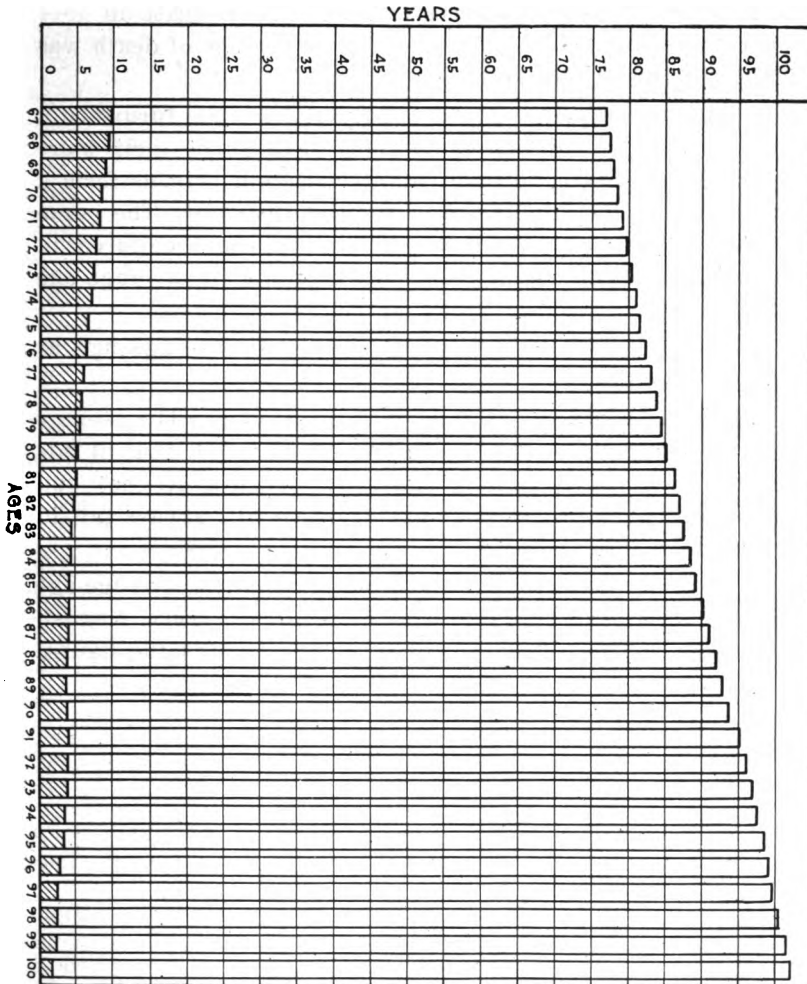


CHART 28C—*Presumptive Expectation and Duration of Life—Rural Districts of Maryland, 1914.*



The succeeding tables (Table XXXV and Table XXXVI) give the average age at death by counties and by months, respectively.

The county giving the lowest average age at death in 1914 was Calvert county (31.985) ; the highest average of death was in Carroll county (49.289).

In general, the thinly populated Rural Districts furnished a high average age at death, not only because of their more favorable sanitary conditions, but because old persons form a larger part of the population of country districts. The populous districts always contain young people and children in numbers above the average, and hence give a low average age at death.

The next table (Table XXXVI) gives the average age at death by months.

The lowest average age at death is in August. The average age at death in this month is 33.704. It is evident that in this State with the high infant mortality in July, August and September the lowest average age at death will always fall in one of these three months.

By reference to the table it will be seen that the average age at death falls below the mean in the months of July, August, September and October. In all the other months the figures are above the mean.

TABLE XXXV.

## MEAN AGE AT DEATH BY COUNTIES—RURAL DISTRICTS—1914.

<i>Counties.</i>	<i>Total Deaths.</i>	<i>Total Age of Decedents.</i>	<i>Average Age at Death.</i>
Allegany. . . . .	886	33,231.661	37.508
Anne Arundel. . . . .	719	25,906.203	36.031
Baltimore. . . . .	1,957	82,693.981	42.255
Calvert. . . . .	142	4,541.888	31.985
Caroline. . . . .	278	10,460.218	37.627
Carroll. . . . .	526	25,925.977	49.289
Cecil. . . . .	339	15,345.808	45.268
Charles. . . . .	270	9,701.993	35.983
Dorchester. . . . .	474	15,562.457	32.832
Frederick. . . . .	779	35,868.905	46.045
Garrett. . . . .	158	6,487.815	41.062
Harford. . . . .	349	15,908.328	45.583
Howard. . . . .	189	7,419.729	39.258
Kent. . . . .	229	9,487.952	41.432
Montgomery. . . . .	358	15,037.451	42.004
Prince George's . . . . .	433	16,715.646	38.604
Queen Anne's . . . . .	262	9,471.828	36.152
Somerset. . . . .	366	13,602.485	37.165
St. Mary's . . . . .	225	8,187.645	36.390
Talbot. . . . .	315	13,102.163	41.594
Washington. . . . .	724	31,746.758	43.849
Wicomico. . . . .	437	16,322.980	37.352
Worcester. . . . .	335	11,617.821	34.680
Total. . . . .	10,750	434,347.692	40.404

TABLE XXXVI.

## MEAN AGE AT DEATH BY MONTHS—RURAL DISTRICTS—1914.

<i>Months.</i>	<i>Total Deaths.</i>	<i>Total Age of Decedents.</i>	<i>Average Age at Death.</i>
January. . . . .	923	41,193.118	44.630
February. . . . .	912	38,871.761	42.623
March. . . . .	1,006	43,763.178	43.502
April. . . . .	874	37,781.222	43.228
May. . . . .	836	34,391.524	41.138
June. . . . .	744	31,205.048	41.942
July. . . . .	875	31,701.546	36.230
August. . . . .	994	33,501.498	33.704
September. . . . .	877	30,729.769	35.039
October. . . . .	875	33,294.159	38.050
November. . . . .	896	38,371.498	42.825
December. . . . .	938	39,543.371	42.157
Total. . . . .	10,750	434,347.692	40.404

## MARYLAND BIOMETER.

This biometer is constructed on a table of survivorship, in which 10,000 persons born in a given year are traced throughout life, under the sanitary conditions of the year of computation, as indicated by the mortality returns.

If the death rates for the several age periods are determined for any given year, we may, by applying these rates to the estimated population of this year, construct a table of survivorship showing the number surviving at certain periods thereafter among those born in the given year.

Thus, of 10,000 persons born in Maryland during 1914, we have to determine the number surviving at the end of five years, of ten years, etc., providing the death rate of 1914 remains constant. A chart constructed from this table will indicate the sanitary condition of the State during the year 1914, and, described in the manner presently to be mentioned, forms the "Maryland Biometer."

The Maryland biometer is shown in the chart in quinquennial periods for the year 1914, assuming the death rate of that year to remain constant. Instead of considering the whole population as a basis the scale is reduced to a population of 10,000 for the convenience of comparison with succeeding years. Of a population of 10,000 born in Maryland during 1914, how many will be living and how many dead at the end of 5 years, of 10 years, etc.? This table and chart indicate survivorship and give both the number of living and dead at each quinquennial period after 1914.

Such charts readily admit of comparison with preceding or following years, as variations in the mortality at the various ages appear in the curve in their proper positions, and do not (as in the expectancy tables) merely modify the form of the curve.

The only factors necessary in the construction of this curve are the mortality rates for the several age periods (0-5, 5-10, etc.), which may be applied first to the original population of 10,000, then to the remaining population, after deducting the deaths from 0-5, etc. Applying the death rates obtained from Table XIX to 10,000 persons born in 1914, the survivorship at succeeding quinquennial periods is shown in Table XXXVII-A. In Table XXXVII-B the survivorship with regard to color is shown.

TABLE XXXVII-A.

## SURVIVORSHIP IN MARYLAND, 1914, TOTAL POPULATION.

SURVIVORS OF 10,000 PERSONS BORN IN MARYLAND IN 1914 AT SUCCEEDING QUIN-  
QUENNIAL PERIODS, ASSUMING THE DEATH RATE OF THAT  
YEAR TO REMAIN CONSTANT.

Number born in 1914.....	10,000
Number reaching age of 5 years (A. D. 1919).....	8,096
Number reaching age of 10 years (A. D. 1924).....	7,979
Number reaching age of 15 years (A. D. 1929).....	7,890
Number reaching age of 20 years (A. D. 1934).....	7,719
Number reaching age of 25 years (A. D. 1939).....	7,476
Number reaching age of 30 years (A. D. 1944).....	7,209
Number reaching age of 35 years (A. D. 1949).....	6,934
Number reaching age of 40 years (A. D. 1954).....	6,603
Number reaching age of 45 years (A. D. 1959).....	6,195
Number reaching age of 50 years (A. D. 1964).....	5,742
Number reaching age of 55 years (A. D. 1969).....	5,200
Number reaching age of 60 years (A. D. 1974).....	4,473
Number reaching age of 65 years (A. D. 1979).....	3,656
Number reaching age of 70 years (A. D. 1984).....	2,724
Number reaching age of 75 years (A. D. 1989).....	1,619
Number reaching age of 80 years (A. D. 1994).....	657

TABLE XXXVII-B.

COMPARATIVE TABLE OF SURVIVORSHIP IN MARYLAND, 1914, WHITE  
AND COLORED.

NUMBER OF SURVIVORS OF 10,000 PERSONS BORN IN MARYLAND IN 1914 AT SUC-  
CEEDING QUINQUENNIAL PERIODS, ASSUMING THE DEATH RATE  
OF THAT YEAR TO REMAIN CONSTANT.

	<i>White.</i>	<i>Colored.</i>
Number born in 1914.....	10,000	10,000
Number reaching age of 5 years (A. D. 1919).....	8,399	6,729
Number reaching age of 10 years (A. D. 1924).....	8,296	6,570
Number reaching age of 15 years (A. D. 1929).....	8,221	6,434
Number reaching age of 20 years (A. D. 1934).....	8,099	6,090
Number reaching age of 25 years (A. D. 1939).....	7,907	5,688
Number reaching age of 30 years (A. D. 1944).....	7,677	5,316
Number reaching age of 35 years (A. D. 1949).....	7,431	4,950
Number reaching age of 40 years (A. D. 1954).....	7,146	4,491
Number reaching age of 45 years (A. D. 1959).....	6,780	3,976
Number reaching age of 50 years (A. D. 1964).....	6,349	3,488
Number reaching age of 55 years (A. D. 1969).....	5,846	2,868
Number reaching age of 60 years (A. D. 1974).....	5,098	2,253
Number reaching age of 65 years (A. D. 1979).....	4,228	1,681
Number reaching age of 70 years (A. D. 1984).....	3,168	1,209
Number reaching age of 75 years (A. D. 1989).....	1,913	646
Number reaching age of 80 years (A. D. 1994).....	774	268

This biometer is graphically shown in Chart No. 29. It is evident that such a chart will indicate the life condition of the State, both in its form and in its area. To calculate the area it is only necessary to measure the length of the perpendiculars to the base line from each component point of the curve, and take the same measurement for the next succeeding point. The area of each trapezoid thus produced is calculated in the usual manner, by taking the product of one-half the sum of its parallel sides by its altitude.

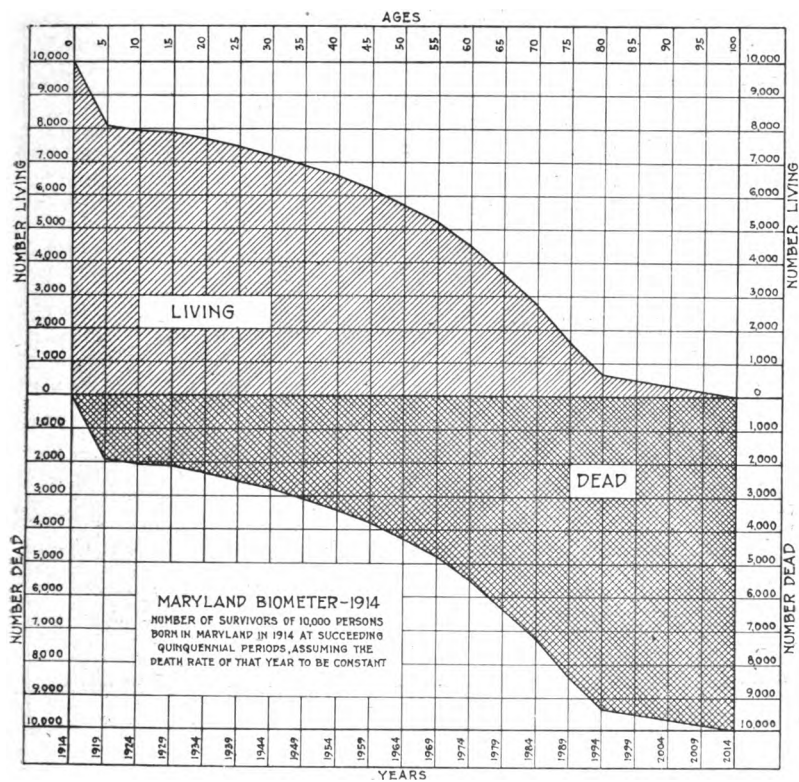
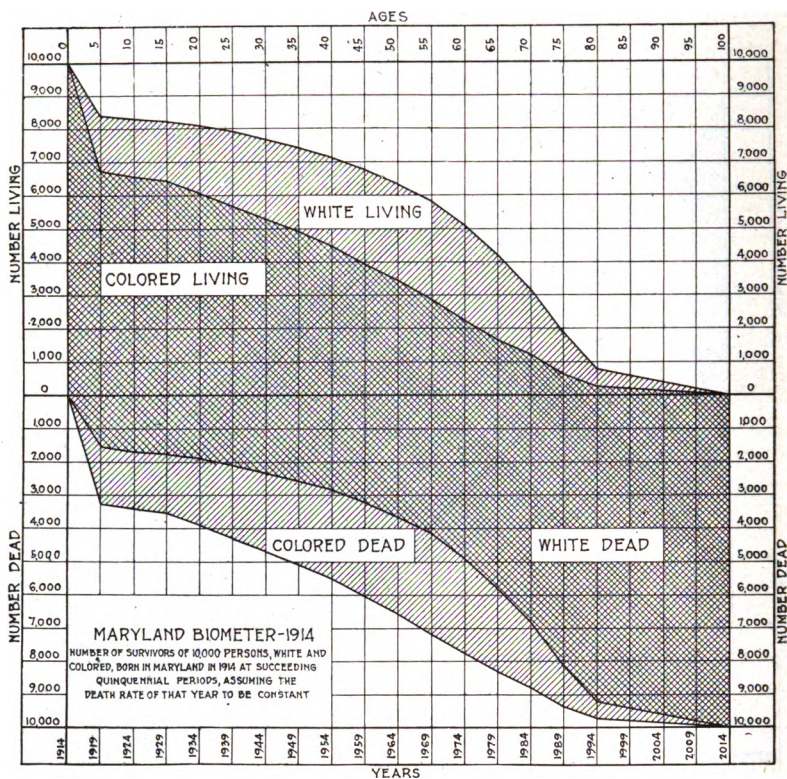


CHART 29.



**CHART 30**—Illustrating the higher death rate in the colored population. In the upper biometer the total white living comprises the area marked colored living, plus the area marked white living. In the lower biometer the colored dead comprises the area marked white dead plus the area marked colored dead.

TABLE XXXVIII-A.

ESTIMATED POPULATION AND DEATHS PER THOUSAND AT THE AGE PERIODS FOR THE  
YEAR 1914—MARYLAND'S ESTIMATED POPULATION, 1,341,074.

<i>Ages.</i>	<i>Per Cent.</i>	<i>Estimated Population.</i>	<i>Deaths.</i>	<i>Mortality Per 1,000 of Those Living at the Age.</i>	<i>Mortality Per 1,000 for Age Periods.</i>
Under 5 Years.....	10.61	142,317	5,419	38.08	190.40
5 to 10 Years.....	10.29	138,049	397	2.88	14.40
10 to 15 Years.....	9.99	133,961	299	2.23	11.15
15 to 20 Years.....	9.88	132,447	573	4.33	21.65
20 to 25 Years.....	9.50	127,441	808	6.30	31.50
25 to 30 Years.....	8.49	113,845	814	7.15	35.75
30 to 35 Years.....	7.40	99,239	757	7.63	38.15
35 to 40 Years.....	7.12	95,489	912	9.55	47.75
40 to 45 Years.....	6.07	81,426	1,006	12.35	61.75
45 to 50 Years.....	5.24	70,290	1,029	14.64	73.20
50 to 55 Years.....	4.57	61,216	1,156	18.88	94.40
55 to 60 Years.....	3.34	44,725	1,250	27.95	139.75
60 to 65 Years.....	2.70	36,207	1,322	36.51	182.55
65 to 70 Years.....	2.05	27,519	1,403	50.98	254.90
70 to 75 Years.....	1.36	18,280	1,483	81.13	405.65
75 to 80 Years.....	0.76	10,192	1,211	118.82	594.10
80 Years and Over....	0.53	7,057	1,467	207.88	
Unknown. . . . .	0.10	1,374	82	59.68	
Total.....		1,341,074	21,383		

TABLE XXXVIII-B.

ESTIMATED WHITE POPULATION AND DEATHS PER THOUSAND AT THE AGE PERIODS  
FOR THE YEAR 1914—MARYLAND'S ESTIMATED WHITE POPULATION, 1,109,608.

<i>Ages.</i>	<i>Per Cent.</i>	<i>Estimated White Population.</i>	<i>Deaths.</i>	<i>Mortality Per 1,000 Annually.</i>	<i>Mortality Per 1,000 for Age Periods.</i>
Under 5 Years.....	10.50	116,509	3,731	32.02	160.10
5 to 10 Years.....	10.13	112,403	276	2.46	12.30
10 to 15 Years.....	9.87	109,518	198	1.81	9.05
15 to 20 Years.....	9.84	109,185	324	2.97	14.85
20 to 25 Years.....	9.37	103,970	493	4.74	23.70
25 to 30 Years.....	8.37	92,874	540	5.81	29.05
30 to 35 Years.....	7.45	82,666	529	6.40	32.00
35 to 40 Years.....	7.11	78,893	604	7.66	38.30
40 to 45 Years.....	6.12	67,908	696	10.25	51.25
45 to 50 Years.....	5.30	58,809	747	12.70	63.50
50 to 55 Years.....	4.67	51,819	822	15.86	79.30
55 to 60 Years.....	3.48	38,614	988	25.59	127.95
60 to 65 Years.....	2.80	31,069	1,061	34.15	170.75
65 to 70 Years.....	2.14	23,746	1,191	50.16	250.80
70 to 75 Years.....	1.42	15,757	1,248	79.20	396.00
75 to 80 Years.....	0.81	8,988	1,070	119.05	595.25
80 Years and Over....	0.54	5,992	1,244	207.61	
Unknown. . . . .	0.08	888	35	39.41	
Total.....		1,109,608	15,797		



TABLE XXXVIII-C.

ESTIMATED COLORED POPULATION AND DEATHS PER THOUSAND AT THE AGE PERIODS  
FOR THE YEAR 1914—MARYLAND'S ESTIMATED COLORED POPULATION, 231,466.

Ages.	Per Cent.	Estimated Colored Population.	Deaths.	Mortality	
				Per 1,000 Annually	Per 1,000 for Age Periods.
Under 5 Years.....	11.15	25,808	1,688	65.41	327.05
5 to 10 Years.....	11.08	25,646	121	4.72	23.60
10 to 15 Years.....	10.56	24,443	101	4.13	20.65
15 to 20 Years.....	10.05	23,262	249	10.70	53.50
20 to 25 Years.....	10.14	23,471	310	13.21	66.05
25 to 30 Years.....	9.06	20,971	274	13.07	65.35
30 to 35 Years.....	7.16	16,573	228	13.76	68.80
35 to 40 Years.....	7.17	16,596	308	18.56	92.80
40 to 45 Years.....	5.84	13,518	310	22.93	114.65
45 to 50 Years.....	4.96	11,481	282	24.56	122.80
50 to 55 Years.....	4.06	9,397	334	35.54	177.70
55 to 60 Years.....	2.64	6,111	262	42.87	214.35
60 to 65 Years.....	2.22	5,138	261	50.80	254.00
65 to 70 Years.....	1.63	3,773	212	56.19	280.95
70 to 75 Years.....	1.09	2,523	235	93.14	465.70
75 to 80 Years.....	0.52	1,204	141	117.11	585.55
80 and Over.....	0.46	1,065	223	209.39	
Unknown. ....	0.21	486	47	96.71	
Total.....		231,466	5,586		

TABLE XXXIX-A.

ESTIMATED POPULATIONS OF MARYLAND.

Years.	1909	1910	1911	1912	1913	1914
0 to 5.....	136,622	137,761	138,900	140,039	141,178	142,317
5 to 10.....	132,560	133,658	134,756	135,854	136,952	138,049
10 to 15.....	128,609	129,679	130,750	131,820	132,890	133,961
15 to 20.....	127,105	128,173	129,242	130,311	131,379	132,447
20 to 25.....	122,361	123,377	124,393	125,410	126,425	127,441
25 to 30.....	109,307	110,215	111,123	112,030	112,938	113,845
30 to 35.....	95,187	95,997	96,807	97,618	98,428	99,239
35 to 40.....	91,623	92,400	93,172	93,944	94,717	95,489
40 to 45.....	78,097	78,763	79,428	80,094	80,760	81,426
45 to 50.....	67,406	67,982	68,560	69,136	69,713	70,290
50 to 55.....	58,670	59,179	59,689	60,198	60,707	61,216
55 to 60.....	42,822	43,203	43,583	43,964	44,344	44,725
60 to 65.....	34,678	34,984	35,289	35,596	35,902	36,207
65 to 70.....	26,348	26,582	26,816	27,051	27,285	27,519
70 to 75.....	17,503	17,659	17,814	17,968	18,124	18,280
75 to 80.....	9,747	9,836	9,925	10,014	10,102	10,192
80 and Over.....	6,762	6,821	6,880	6,938	6,998	7,057
Unknown. ....	1,332	1,341	1,349	1,357	1,366	1,374
Total.....	1,286,744	1,297,610	1,308,476	1,319,342	1,330,208	1,341,074

TABLE XXXIX-B.

## DEATHS BY AGES.

Years.	1909	1910	1911	1912	1913	1914
0 to 5.....	5,999	5,873	5,467	5,415	5,896	5,419
5 to 10.....	443	421	426	373	436	397
10 to 15.....	324	372	320	272	289	290
15 to 20.....	553	606	574	556	591	573
20 to 25.....	1,678	1,656	763	742	793	803
25 to 30.....			850	843	845	814
30 to 35.....	1,598	1,725	774	826	805	757
35 to 40.....			857	885	818	912
40 to 45.....	1,708	1,764	842	904	892	1,006
45 to 50.....			921	940	964	1,029
50 to 55.....	1,928	2,120	1,077	1,127	1,101	1,156
55 to 60.....			1,017	1,056	1,095	1,250
60 to 65.....	2,363	2,640	1,215	1,276	1,186	1,322
65 to 70.....			1,285	1,377	1,293	1,403
70 to 75.....	2,231	2,401	1,325	1,370	1,413	1,483
75 to 80.....			1,105	1,106	1,142	1,211
80 and Over.....	1,250	1,359	1,414	1,458	1,420	1,467
Unknown.....	63	34	58	71	69	82
Total.....	20,138	20,971	20,290	20,597	21,048	21,383

TABLE XXXIX-C.

## DEATH RATE PER THOUSAND BY AGE PERIODS.

Years.	1909	1910	1911	1912	1913	1914
0 to 5.....	43.91	42.63	39.36	38.67	41.76	38.08
5 to 10.....	3.34	3.15	3.16	2.75	3.18	2.88
10 to 15.....	2.52	2.87	2.45	2.06	2.17	2.23
15 to 20.....	4.35	4.73	4.44	4.27	4.50	4.33
20 to 25.....	7.24	7.09	6.13	5.92	6.27	6.30
25 to 30.....			7.65	7.52	7.48	7.15
30 to 35.....	8.55	9.16	8.00	8.46	8.18	7.63
35 to 40.....			9.20	9.42	8.64	9.55
40 to 45.....	11.74	12.02	10.60	11.29	11.05	12.35
45 to 50.....			13.43	13.60	13.83	14.64
50 to 55.....	19.00	20.71	18.04	18.72	18.14	18.88
55 to 60.....			23.33	24.02	24.69	27.95
60 to 65.....	38.72	42.88	34.43	35.85	33.03	36.51
65 to 70.....			47.92	47.40	47.39	50.98
70 to 75.....	81.87	87.33	74.38	76.25	77.96	81.13
75 to 80.....			111.33	110.45	113.05	118.82
80 and Over.....	184.86	199.24	205.52	210.15	202.92	207.88
Unknown.....	47.30	25.35	42.99	52.32	50.51	59.68
Total.....	15.65	16.16	15.51	15.61	15.82	15.94

TABLE XL.

SURVIVORSHIP BY AGES—1909, 1910, 1911, 1912, 1913, 1914.

10,000 Born in.....	1909	1910	1911	1912	1913	1914
Number Reaching 5 Years.....	7,804	7,868	8,032	8,066	7,912	8,096
Number Reaching 10 Years.....	7,674	7,744	7,905	7,955	7,786	7,979
Number Reaching 15 Years.....	7,577	7,633	7,808	7,873	7,702	7,890
Number Reaching 20 Years.....	7,412	7,452	7,635	7,705	7,529	7,719
Number Reaching 25 Years.....	6,875	6,924	7,401	7,477	7,293	7,476
Number Reaching 30 Years.....			7,118	7,196	7,020	7,209
Number Reaching 35 Years.....	6,287	6,290	6,833	6,892	6,733	6,934
Number Reaching 40 Years.....			6,519	6,567	6,442	6,603
Number Reaching 45 Years.....	5,549	5,534	6,173	6,196	6,086	6,195
Number Reaching 50 Years.....			5,758	5,775	5,665	5,742
Number Reaching 55 Years.....	4,495	4,388	5,239	5,234	5,151	5,200
Number Reaching 60 Years.....			4,628	4,605	4,515	4,473
Number Reaching 65 Years.....	2,755	2,506	3,831	3,780	3,769	3,656
Number Reaching 70 Years.....			2,913	2,884	2,876	2,724
Number Reaching 75 Years.....	499	318	1,830	1,784	1,755	1,619
Number Reaching 80 Years.....			811	799	763	657

## MARRIAGES AND DIVORCES.

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The session of the General Assembly of the year 1914 passed a law requiring the clerks of the Circuit Courts of the various counties of Maryland and Baltimore City to make regular monthly reports of all marriage license returns which they have received and of all divorces which have been granted in the counties. The law did not go into effect until the first of April, 1914, and we were unable to receive a full twelve months return of either marriages or divorces from every county. Upon appealing to the clerks of courts of the several counties and Baltimore City the majority of them were kind enough to furnish us with the returns which we requested.

Owing to the very meager information furnished on the return slip of the marriage license as prescribed by law we found that it would be impossible to make any detailed tabulation and upon appeal to the office of the Comptroller of the State, the Hon. Emerson C. Harrington, and to the Attorney-General of the State, the Hon. Edgar Allan Poe, we were enabled to require additional information in the return slips of clergymen, thus increasing the value of the records which we received. It is our hope in a few years to be able to present statistical tables of marriages and divorces.

Table XLII gives the divorces for Baltimore City and the several counties by months. Out of the total of 753 divorces recorded in the State during the time covered by these returns, 498 were issued in the courts of Baltimore City.

Table XLI gives the marriages in Baltimore and in the various counties, by months. Of the 16,202 marriage returns, 5,311 were made to the clerks of the court of Baltimore City and returns for 10,891 were made to the clerks of the courts of the counties.

TABLE XLI.

## MARRIAGES—1914.

RETURNS MADE BY CLERGYMEN TO CLERKS OF THE CIRCUIT COURTS OF BALTIMORE  
CITY AND OF THE COUNTIES FOR MARRIAGES  
WHICH THEY PERFORM.

	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Allegany. . . . .	0	0	0	169	146	233	186	196	207	177	172	230	1716
Anne Arundel..	0	0	0	39	25	52	45	22	29	33	21	42	308
Baltimore. . . .	0	0	0	58	38	101	47	47	62	61	106	62	582
Calvert. . . . .	0	0	0	5	4	3	0	0	3	6	8	13	42
Caroline. . . . .	0	0	1	13	8	18	7	13	11	13	19	27	130
Carroll. . . . .	1	2	0	0	0	1	11	9	20	30	27	36	137
Cecil. . . . .	174	169	154	184	164	245	218	233	243	247	212	206	2449
Charles. . . . .	0	0	0	3	5	6	2	3	5	5	9	18	56
Dorchester. . .	0	0	1	22	21	21	17	17	20	23	32	43	217
Frederick. . . .	46	35	48	39	36	44	32	46	48	66	34	69	543
Garrett. . . . .	38	30	43	45	71	73	76	66	83	70	66	56	717
Harford. . . . .	17	16	16	16	10	21	10	12	17	23	22	19	199
Howard. . . . .	41	39	45	49	48	74	47	56	65	67	51	54	636
Kent. . . . .	20	11	7	12	7	11	6	10	15	9	12	21	141
Montgomery. . .	33	29	28	33	30	32	33	29	55	54	41	51	448
Prince George's.	10	9	3	14	4	23	10	6	13	20	12	20	144
Queen Anne's..	0	0	0	7	12	8	2	12	13	8	12	43	117
Somerset. . . . .	2	2	0	1	18	28	30	19	25	28	12	47	212
St. Mary's. . . .	16	10	1	12	4	10	5	8	5	7	11	24	113
Talbot. . . . .	0	0	0	11	6	11	15	12	16	18	23	41	153
Washington. . .	124	116	102	100	90	123	120	115	106	138	112	138	1384
Wicomico. . . .	0	0	0	2	5	29	13	22	27	22	33	50	203
Worcester. . . .	16	18	12	16	15	12	27	24	15	21	19	49	244
Total Counties.	538	486	461	850	767	1179	959	977	1103	1146	1066	1359	10891
Balto. City. . . .	0	0	0	590	431	852	484	526	569	637	685	537	5311
Total. . . . .	538	486	461	1440	1198	2031	1443	1503	1672	1783	1751	1896	16202

TABLE XLII.

## DIVORCES—1914.

DIVORCES REPORTED BY MONTHS FOR BALTIMORE CITY AND THE VARIOUS COUNTIES.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Allegany. . . . .	0	0	0	5	1	7	2	0	2	5	6	5	33
Anne Arundel. . . . .	0	0	0	2	0	3	0	0	2	2	2	1	12
Baltimore. . . . .	0	0	0	1	1	7	8	2	7	0	0	0	26
Calvert. . . . .	0	0	0	0	0	0	0	1	0	0	0	0	1
Caroline. . . . .	0	0	0	0	1	2	0	2	2	0	1	2	10
Carroll. . . . .	0	0	0	0	0	0	0	3	0	1	3	0	7
Cecil. . . . .	0	1	1	1	2	2	0	0	1	1	0	0	9
Charles. . . . .	1	0	0	0	1	0	0	0	0	0	0	1	3
Dorchester. . . . .	0	0	0	2	1	0	1	2	0	0	0	0	6
Frederick. . . . .	0	4	1	2	3	2	3	1	5	0	6	2	29
Garrett. . . . .	0	1	2	1	2	0	1	1	3	0	0	1	12
Harford. . . . .	0	0	0	0	0	1	2	0	3	0	0	1	7
Howard. . . . .	0	0	0	0	0	0	0	0	0	0	0	0	0
Kent. . . . .	0	0	0	0	1	0	1	0	0	2	0	2	6
Montgomery. . . . .	2	4	1	0	4	1	0	0	1	0	1	2	16
Prince George's. . . . .	1	1	0	1	1	1	2	3	0	1	0	0	11
Queen Anne's. . . . .	0	0	0	0	0	0	0	0	0	1	0	0	1
Somerset. . . . .	0	0	0	0	1	2	1	1	2	1	0	0	8
St. Mary's. . . . .	0	0	0	0	0	0	0	0	0	0	0	1	1
Talbot. . . . .	0	0	0	0	1	1	1	0	0	0	1	0	4
Washington. . . . .	0	4	2	4	0	4	7	3	6	8	0	6	44
Wicomico. . . . .	0	0	0	1	0	0	0	0	0	0	0	0	1
Worcester. . . . .	1	0	1	0	1	2	0	0	0	2	0	1	8
Total Counties. . . . .	5	15	8	20	21	35	29	19	34	24	20	25	255
Baltimore City. . . . .	31	25	36	45	43	55	53	28	41	41	39	61	496
Total. . . . .	36	40	44	65	64	90	82	47	75	65	59	86	753

## Report of the Bureau of Communicable Diseases

C. W. G. ROHRER, Acting Chief

BALTIMORE, MD., June 15, 1915.

DR. JOHN S. FULTON,

*Secretary, State Department of Health,  
Baltimore, Maryland.*

SIR:

I have the honor to transmit herewith the report of the Bureau of Communicable Diseases for the calendar year 1914. The data contained therein have been arranged under the following six sub-headings:

- I. Notifiable Disease Reports.
- II. Sanitary Surveys and Investigations.
- III. Public Health Conditions by Counties.
- IV. Occupational Diseases.
- V. Cases Examined for Diagnosis.
- VI. Prosecutions.

### I. NOTIFIABLE DISEASE REPORTS.

In 1914, in the counties of Maryland,\* there were 9,061 cases of notifiable disease reported, as contrasted with 6,357 cases in 1910, 6,609 cases in 1911, 5,825 cases in 1912, and 12,111 cases in 1913.† Measles, typhoid fever, scarlet fever, diphtheria, whooping cough, chickenpox, and mumps were the most frequent kinds of sickness.

The following is a detailed statement of the 1914 figures, with comparative figures for 1910, 1911, 1912 and 1913.

\*The State of Maryland, exclusive of Baltimore City.

†The above figures do not include the county tuberculosis cases.

CASES OF SICKNESS FROM NOTIFIABLE DISEASE IN THE  
COUNTIES OF MARYLAND FOR 1914,  
1913, 1912, 1911 AND 1910.

<i>Name of Disease.</i>	1914.	1913.	1912.	1911.	1910.
Measles. . . . .	2,000	5,352	1,675	1,706	1,323
Typhoid Fever . . . . .	1,860	2,983	1,795	1,980	2,348
Scarlet Fever . . . . .	1,655	822	608	653	682
Diphtheria. . . . .	790	1,049	784	783	600
Whooping Cough . . . . .	768	812	441	453	734
Chickenpox. . . . .	732	549	251	274	215
Mumps. . . . .	470	287	103	605	243
German Measles. . . . .	259	29	11	13	56
Smallpox. . . . .	216	132	20	31	6
Malaria. . . . .	96	13	14	27	7
Erysipelas. . . . .	42	30	18	15	15
Meningitis. . . . .	39	11	6	8	2
Influenza. . . . .	31	13	61	41	92
Acute Dysentery . . . . .	30	1	1	3	0
Septic Sore Throat. . . . .	18	5	0	0	0
Septicemia. . . . .	16	1	4	1	1
Impetigo Contagiosa . . . . .	13	0	0	0	0
Anterior Poliomyelitis . . . . .	12	9	32	12	33
Scabies. . . . .	4	0	0	0	0
Puerperal Sepsis . . . . .	3	0	0	0	0
Pellagra. . . . .	2	3	0	3	0
Ophthalmia Neonatorum . . . . .	2	2	0	0	0
Tetanus. . . . .	2	0	0	1	0
Ring Worm. . . . .	1	0	0	0	0
Catarrhal Conjunctivitis . . . . .	0	8	0	0	0
Trachoma. . . . .	0	0	1	0	0
Yearly Totals. . . . .	9,061	12,111	5,825	6,609	6,357

In the foregoing summary of cases of sickness from notifiable disease, the total is 9,061. There were reported during the year 3,302 cases of tuberculosis, as compared with 3,294 cases reported in 1913, distributed as follows:

(a) Baltimore City, 2,145.

(b) Counties of Maryland, 1,157.

By including the 1,157 county cases of tuberculosis, the figures for the year are raised to 10,218.

The law on the subject of reporting notifiable diseases, recently amended, is quite clear. A quotation from it is reproduced here:

Whenever any physician knows, or has reason to believe, that any person whom he is called to visit is infected with smallpox, diphtheria, scarlet fever, typhoid fever, typhus fever, yellow fever, measles, whooping cough, or any other contagious or infectious disease dangerous to public health, he shall immediately give notice thereof in writing, over his own signature, to the Board of Health or Health Officer of the city, town, county or district in which such disease exists; and if he refuses or neglects to give such notice, he shall be fined not less than ten nor more than one hundred dollars.



Compared with the preceding year there is a very noticeable decrease in the total number of cases of notifiable disease reported. This is especially due to a low attack rate in measles, typhoid fever and diphtheria.

The three best counties, in the matter of recording communicable disease in 1914, were Dorchester, Howard and Allegany. The poorest registration of sickness was done in Talbot, Worcester, Cecil, Frederick, Kent, Garrett and St. Mary's.

The reported cases of notifiable disease, rural Maryland (the State of Maryland, exclusive of Baltimore City), for 1914, by months and diseases, will next be shown. Among the graver notifiable diseases, whooping cough and anterior poliomyelitis are only fairly well reported, while the returns for influenza, septic sore throat and acute dysentery are very imperfect.

REPORTED CASES OF NOTIFIABLE DISEASES—RURAL MARYLAND, BY MONTHS AND DISEASES—1914.\*

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Measles. . . . .	468	413	461	258	154	105	43	18	15	15	36	14	2000
Whooping cough . . . . .	126	95	75	59	62	97	88	35	19	29	24	59	768
Scarlet fever . . . . .	193	188	171	134	165	81	59	60	55	68	213	268	1655
Typhoid fever . . . . .	98	115	58	50	73	67	168	293	340	231	258	109	1860
Diphtheria. . . . .	104	77	51	62	28	44	22	26	38	106	120	112	790
Influenza. . . . .	7	2	0	0	4	6	5	0	2	0	1	4	31
Chickenpox. . . . .	83	108	111	39	20	50	28	12	10	28	102	141	732
Mumps. . . . .	32	43	87	73	68	41	20	13	13	16	19	45	470
Smallpox. . . . .	1	51	76	35	11	16	7	0	0	2	15	2	216
German measles . . . . .	1	17	78	105	29	16	5	1	2	1	2	2	259
Erysipelas. . . . .	4	5	3	5	5	2	4	2	1	4	0	7	42
Meningitis. . . . .	0	2	1	1	1	3	8	6	6	4	4	3	39
Malaria. . . . .	0	0	0	0	0	4	2	9	7	69	2	3	96
Pellagra. . . . .	0	0	1	0	0	0	1	0	0	0	0	0	2
Septicemia. . . . .	0	0	1	0	0	3	3	3	2	1	2	1	16
Anterior poliomyelitis . . . . .	0	0	1	0	0	1	1	2	1	1	2	3	12
Septic sore throat. . . . .	4	0	2	0	7	3	0	0	0	0	0	2	18
Ophthalmia neonatorum. . . . .	1	0	0	0	0	0	0	0	0	0	0	1	2
Acute dysentery . . . . .	0	0	0	0	0	2	4	6	11	4	1	2	30
Scabies. . . . .	0	2	0	0	2	0	0	0	0	0	0	0	4
Puerperal sepsis . . . . .	0	0	0	0	0	1	0	1	1	0	0	0	3
Tetanus. . . . .	0	0	0	0	0	0	1	0	1	0	0	0	2
Ring worm. . . . .	0	0	0	0	0	0	0	0	0	0	1	0	1
Impetigo contagiosa . . . . .	0	1	0	0	0	0	0	0	0	0	0	12	13
Total. . . . .	1122	1119	1177	821	629	542	469	487	524	579	802	790	9061

\*Tuberculosis separately compiled.

## TUBERCULOSIS MORBIDITY, MARYLAND—1914.

	<i>Male White.</i>	<i>Female White.</i>	<i>Male Colored.</i>	<i>Female Colored.</i>	<i>Unknown.</i>	<i>Total.</i>
Baltimore City.....	985	690	247	218	5	2,145
Counties of Maryland....	449	475	111	120	2	1,157
Entire State .....	1,434	1,165	358	338	7	3,302

## II. SANITARY SURVEYS AND INVESTIGATIONS.

An investigation of the almshouses of Baltimore, Caroline, Cecil, Harford, Kent, Prince George's, St. Mary's, Somerset, Talbot and Worcester counties, with special reference to valuation of property, expenditures, inmates, insanity, sickness, etc., begun on December 22nd, 1913, extended over into 1914, having been completed on January 21st. A detailed account of these investigations may be found in the individual reports on the several counties, made at that time. A full and complete inspection was also made of the almshouses of Montgomery and Queen Anne's County, and of the means of caring for paupers in Charles County, where there is no eleemosynary institution.

In addition to a completion of the surveys of the county almshouses, a total of 21 investigations were made, in 1914, under the direction of this Bureau. These cover a wide range of topics. A summary of the results of the most important of these investigations will next be given, arranged in chronological order.

On January 28th an investigation was made of scarlet fever conditions at Raspeburg and Overlea, in Baltimore County. Two anonymous letters had been received, alleging that isolation measures were improperly carried out. There were nine cases of scarlet fever, all of which were receiving reasonably good care and attention from the local health officer.

On February 3rd this Bureau assisted in an investigation of the typhoid fever outbreak at Rockville, Montgomery County. This outbreak, caused by infection through an unrecognized case of typhoid fever, transmitted in the public water supply obtained from a deep well, extended from January 15th to February 20th, comprising a total of 28 cases, three of which terminated fatally.

On February 25th and 26th an investigation was made into the cause of the undue prevalence of typhoid fever at Westernport, Allegany County. Histories were obtained in 18 cases, all pointing to a contamination of the public water supply derived from the Savage River. All of these patients were white, 10 males and 8 females, distributed over a wide area. One-half were school children.

On April 15, 16 and 17 an investigation was made into the prevalence of scarlet fever at Elkton, Cecil County. There were 13 cases of sick-

ness. At the time of investigation the school-house and other public buildings were disinfected by the spray method, pyxol solution, one part of pyxol in 500 parts of water, being the disinfectant used.

On May 7th an investigation was made of an outbreak of scarlet fever at the Crownsville State Hospital for the Colored Insane, located in Anne Arundel County. By the end of this outbreak there was a total of 72 cases of sickness—one in March, nine in April and sixty-two in May. The disease was carried to the institution from Annapolis, by a female nurse, who had had a mild attack, unrecognized at first.

On May 12th the undue prevalence of typhoid fever at Skinner's Neck, near Rock Hall, Kent County, was investigated. Already in September, 1913, cases began to appear, the outbreak extending down to the time of the investigation. Altogether, in this little settlement of about 200 inhabitants, there occurred 25 cases of typhoid fever, in 8 different families. In two of these there were five cases each. Faulty methods of sewage disposal and contaminated water supplies were responsible for the outbreak.

On May 20th an investigation was made of three cases of typhoid fever at Notre Dame College, Roland Park, Baltimore County. Two of these patients contracted the disease while away from the College on a visit, while the third was taken ill at her home in Baltimore. The water supply at the College was found to be excellent, being derived from an artesian well; but its methods of sewage disposal were inadequate. A new sewerage system was installed. The typhoid cases, however, were imported, and did not originate at the school.

Beginning with May 27th, a further investigation was made into the undue prevalence of typhoid fever at Westernport, Allegany County. This outbreak was primarily traced (February 25th and 26th) to an infected public water supply, with a number of secondary cases resulting from contagion or contact. To obviate a further spread of this disease, anti-typhoid vaccination was recommended. Within a period of twenty-three days (May 27th to June 18th, inclusive) there were over 1,300 persons in the tri-towns of Westernport, Luke and Piedmont (W. Va.) immunized, as follows:

Free inoculations given at Westernport.....	413
Employees of W. Va. Pulp and Paper Co.....	860
Inoculations by physicians in private practice.....	50

On June 24th a sanitary survey was made of the living quarters and premises of the Camp Fire Girls, near Robinson, Anne Arundel County, with special reference to sewage disposal and water supply. The recommendations included a sanitary privy and the protection of the spring—one of the two sources of water supply—from surface contamination.

On August 7th a preliminary investigation was made of a typhoid fever outbreak at Indian Head, Charles County. There were ten cases of sickness, traceable to infected subsoil wells. The investigation was continued on September 29th and 30th, 24 additional cases of typhoid fever having developed at Indian Head and in neighboring communities, making 34 in all. On the latter date an inquiry was also made into 23 cases of illness at Indian Head, diagnosed "enteritis."

On August 19th an investigation of a typhoid fever outbreak at the Maryland House of Correction, Jessup, Anne Arundel County, was made. There were seven cases of typhoid fever and a number of suspicious cases of illness diagnosed "diarrhoea," all traced to a polluted water supply.

On September 23rd an investigation was made of a typhoid fever outbreak at Greensboro, Caroline County. There were 13 cases of

sickness at the time, attributed to milk, an unrecognized case of typhoid fever having occurred on a dairy farm supplying milk to the larger part of the inhabitants of the town.

On October 16th, 21st and 23rd, investigations were made of the anthrax situation on the dairy farm of Mr. W. B. Davis of Whiteford, Harford County. Seven cows and nine hogs died of anthrax. The twelve members of Mr. Davis' household were given the anthrax protective serum. In two of the family—youths, aged, respectively, 16 and 14 years—the reaction was quite profound, simulating a modified form of anthrax. The veterinary surgeon residing in Pennsylvania, who examined the first sick animal, contracted the local form of the disease.

On November 10th an investigation was made of the typhoid fever conditions existing at Croom, a village containing 180 inhabitants, located in Prince George's County. During the summer and autumn months there were 15 cases of typhoid fever at Croom, due to infected private water supplies, insanitary privies, flies and contagion.

On November 19th an investigation was made at the Clermont Stockyards, Brunswick street extended, in reference to disinfection of the hotel and railroad stations at that place, frequented by persons engaged in eradicating foot-and-mouth disease among cattle.

On December 5th an epidemic of mumps, consisting of 77 cases, at the Arlington Public School, Baltimore County, was investigated. The school-rooms were disinfected by the spray method.

On December 7th an outbreak of chickenpox, 11 cases in all, at the Garrison Forest School, Baltimore County, was investigated.

On December 14th to 19th the scarlet fever outbreak in Frostburg, Allegany County, was investigated. This epidemic comprised a total of 122 cases, 36 occurring in November and 86 in December. The school-rooms and other public buildings were disinfected by the spray method.

### III. PUBLIC HEALTH CONDITIONS BY COUNTIES.

The State of Maryland is arbitrarily divided into two public health jurisdictions—one composed of Baltimore City alone, the other comprising the State of Maryland exclusive of Baltimore City. The former has an area of 31.64 square miles, with a population of 558,485; the latter—the special province of the State Department of Health—has an area approximating 10,000 square miles, with a population of 736,861. It is ordinarily spoken of as "rural Maryland," or the "counties of Maryland."

A series of 24 tables will follow. The first is a summary for the entire 23 counties, portraying notifiable disease conditions throughout rural Maryland, by months and counties, for 1914. This will be succeeded by a table for each of the counties, arranged alphabetically, giving the number of reported cases by county and disease. Epidemiological notes are also appended.

REPORTED CASES OF NOTIFIABLE DISEASES, RURAL MARYLAND, BY  
MONTHS AND COUNTIES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Allegany. . . . .	145	170	150	126	123	103	80	69	69	62	149	190	1436
Anne Arundel. . . . .	27	30	47	50	78	21	32	22	13	24	24	49	417
Baltimore. . . . .	128	211	245	258	121	106	75	76	84	85	105	202	1696
Calvert. . . . .	3	10	31	2	5	2	9	13	14	9	18	1	117
Caroline. . . . .	9	3	9	24	15	7	11	14	41	14	19	0	166
Carroll. . . . .	61	27	92	51	44	58	12	18	19	9	10	16	417
Cecil. . . . .	41	7	20	9	6	29	16	4	15	4	9	12	172
Charles. . . . .	9	15	3	10	4	11	12	27	23	90	28	4	236
Dorchester. . . . .	292	222	45	21	35	18	45	42	24	33	47	17	841
Frederick. . . . .	29	27	17	29	4	16	16	26	44	33	53	43	337
Garrett. . . . .	9	5	7	4	3	0	9	2	5	9	17	5	75
Harford. . . . .	35	7	10	4	5	7	10	10	17	15	20	16	156
Howard. . . . .	129	43	77	19	35	26	30	10	19	13	15	21	437
Kent. . . . .	7	11	8	0	7	3	4	7	4	8	23	15	97
Montgomery. . . . .	11	91	49	17	13	5	2	3	5	37	20	23	276
Prince George's . . . . .	34	54	154	60	17	23	22	26	20	12	35	18	475
Queen Anne's . . . . .	38	24	71	12	8	9	5	16	12	23	21	44	283
St. Mary's . . . . .	5	0	10	0	0	2	0	2	1	0	5	2	27
Somerset. . . . .	38	52	17	24	18	8	28	15	20	20	26	23	289
Talbot. . . . .	9	5	12	13	2	8	9	11	14	19	24	33	159
Washington. . . . .	40	65	47	38	23	15	16	36	37	42	86	48	493
Wicomico. . . . .	15	34	56	34	19	31	20	30	8	14	12	6	279
Worcester. . . . .	8	6	0	16	44	34	6	8	15	4	36	2	180
Total. . . . .	1122	1119	1177	821	629	542	469	487	524	579	802	790	9061

## ALLEGANY COUNTY.

(Area in Square Miles, 440.5; Population, 62,411.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	19	37	20	15	38	22	32	38	31	12	14	12	290
Scarlet fever .....	52	46	51	49	45	35	21	22	25	22	87	128	583
Diphtheria. . . . .	16	21	8	10	9	13	3	2	5	22	13	17	139
Whooping cough .....	32	13	4	6	1	4	11	4	2	0	0	0	77
Measles. . . . .	2	20	24	15	15	5	4	1	0	0	0	1	87
Influenza. . . . .	1	2	0	0	0	0	1	0	0	0	0	1	5
Erysipelas. . . . .	4	1	1	0	2	0	0	0	0	0	0	0	8
Mumps. . . . .	6	18	7	14	9	4	2	0	0	1	4	6	71
Chickenpox. . . . .	11	8	22	7	2	13	2	1	1	4	24	24	119
Smallpox. . . . .	1	0	3	1	0	0	2	0	0	1	3	0	11
German measles .....	1	1	10	9	1	0	0	0	1	0	0	0	23
Meningitis. . . . .	0	2	0	0	1	1	1	1	1	0	2	0	9
Impetigo contagiosa ....	0	1	0	0	0	0	0	0	0	0	0	0	1
Septic sore throat.....	0	0	0	0	0	3	0	0	0	0	0	0	3
Malaria. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Acute dysentery .....	0	0	0	0	0	1	0	0	2	0	0	0	3
Septicemia. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Anterior poliomyelitis ...	0	0	0	0	0	0	1	0	0	0	2	1	4
Puerperal sepsis .....	0	0	0	0	0	0	0	0	1	0	0	0	1
Total.....	145	170	150	126	123	103	80	69	69	62	149	190	1436

During several months of the year typhoid fever was unduly prevalent in Westernport and in Cumberland. From Westernport there were 24 cases of this disease reported in February and 31 in May. In July there were 11 cases reported from Cumberland and 13 from Westernport; in August, 21 from Cumberland and 7 from Westernport; in September, 15 from Cumberland.

Scarlet fever also prevailed in epidemic proportions, especially in Cumberland and Frostburg. In January there were 32 cases reported from Cumberland, and 5 from Lonaconing; in February, 35 from Cumberland and 7 from Lonaconing; in March, 34 from Cumberland, and 5 each from Eckhart Mines and Westernport. In April, 39 cases were reported from Cumberland, a like number in May and 26 in June. In November 36 cases were reported from Frostburg, 24 from Cumberland and 8 from Eckhart Mines. In December, 86 cases were reported from Frostburg, 12 from Cumberland and 9 from Borden Shaft.

Diphtheria prevailed in Cumberland to the extent of 8 cases in January, 17 in February, 12 in October and 9 in December. In October there were 6 cases in Lonaconing.

Whooping cough was epidemic at Lord, in January, with 30 reported cases. In February, 5 cases were reported from Midland; in July, 7 from Mt. Savage.

In February, 7 cases of measles were reported from Westernport; in March, 21 cases from Cumberland.

In February, 11 cases of mumps were reported from Eckhart Mines, in April, 9 cases were reported from Cumberland.

In Cumberland 17 cases of chickenpox were reported in March, 10 in April, 18 in May and 23 in December.

In 1914 a total of 11 cases of smallpox occurred in Allegany County, distributed as follows: In January, 1 case at Westernport; in March, Cumberland 1; Cumberland R. F. D., 2; in April, Eckhart Mines, 1; in July, Cumberland and Westernport, each 1 case; in October, Cumberland 1 case, and 3 cases at Midland in November.

In June, 3 cases of septic sore throat were reported at Moscow Mills.

## ANNE ARUNDEL COUNTY.

(Area in Square Miles, 430.4; Population, 39,553.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever. . . . .	10	4	2	0	3	2	8	16	9	16	8	5	83
Scarlet fever . . . . .	3	2	1	10	62	0	0	1	0	0	8	26	113
Diphtheria. . . . .	6	4	4	2	1	1	0	0	1	5	0	3	27
Whooping cough . . . . .	0	0	2	8	1	7	22	2	2	0	6	3	53
Measles. . . . .	1	0	4	5	4	0	0	0	0	0	2	0	16
Erysipelas. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Mumps. . . . .	1	0	0	5	0	0	1	0	0	0	0	0	7
Chickenpox. . . . .	6	20	24	5	2	3	0	0	0	1	0	11	72
Smallpox. . . . .	0	0	5	1	0	0	0	0	0	0	0	0	6
German measles . . . . .	0	0	5	14	5	5	0	0	0	0	0	0	29
Meningitis. . . . .	0	0	0	0	0	0	1	0	0	1	0	0	2
Malaria. . . . .	0	0	0	0	0	1	0	2	0	0	0	0	3
Influenza. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Septicemia. . . . .	0	0	0	0	0	0	0	1	0	0	0	1	2
Acute dysentery . . . . .	0	0	0	0	0	0	0	0	1	1	0	0	2
Total. . . . .	27	30	47	50	78	21	32	22	13	24	24	49	417

In January there were 6 cases of typhoid fever at Church-ton; in August, 7 at the Maryland House of Correction at Jessups; in October, 7 cases occurred at South Baltimore.

In the spring of 1914 an epidemic of scarlet fever occurred at the Crownsville State Hospital for the Colored Insane, with reports of 9 cases in April and 62 in May. In December there were 12 cases of this disease reported from Brooklyn, and 4 each from Waterbury and Glenburnie.

In July there were 7 cases of whooping cough reported from Lake Shore, 6 from Annapolis and 4 from Robinson.

Eleven cases of chickenpox were reported from Annapolis in February, and 10 in March. In December, 8 cases were reported from Odenton.

In March there were 3 cases of smallpox reported from Curtis Bay, and 1 each from Linthicum Heights and Fairfield. In April, 1 case was reported from Brooklyn.

Thirteen cases of German measles were reported from Annapolis, in April.



## BALTIMORE COUNTY.

(Area in Square Miles, 646.8; Population, 122,399.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	6	7	4	6	8	4	18	36	44	29	24	24	210
Scarlet fever .....	32	43	27	40	27	9	7	4	4	7	13	38	251
Diphtheria. ....	32	19	17	25	3	17	7	4	11	27	25	37	224
Whooping cough .....	12	20	29	19	28	24	17	12	5	3	9	4	182
Measles. ....	19	45	95	102	16	10	2	0	2	1	0	7	299
Chickenpox. ....	24	33	19	17	5	15	14	6	6	13	29	50	231
Mumps. ....	3	4	29	32	27	18	5	6	5	3	3	25	160
Smallpox. ....	0	40	21	17	7	6	0	0	0	0	0	0	91
Erysipelas. ....	0	0	1	0	0	1	1	0	0	1	0	3	7
German measles. ....	0	0	0	0	0	2	1	1	0	1	0	0	5
Meningitis. ....	0	0	0	0	0	0	1	1	1	0	2	0	5
Malaria. ....	0	0	0	0	0	0	2	6	4	0	0	0	12
Septicemia. ....	0	0	1	0	0	0	0	0	0	0	0	0	1
Acute dysentery. ....	0	0	0	0	0	0	0	0	2	0	0	0	2
Septic sore throat. ....	0	0	2	0	0	0	0	0	0	0	0	0	2
Impetigo contagiosa ....	0	0	0	0	0	0	0	0	0	0	0	12	12
Influenza. ....	0	0	0	0	0	0	0	0	0	0	0	2	2
Total.....	128	211	245	258	121	106	75	76	84	85	105	202	1696

In August, 6 cases of typhoid fever occurred at Rossville and 4 at Landsdowne. In October there were 5 cases of this disease at Highlandtown; in November, 4 at Sparrows Point; in December, 7 at Highlandtown.

In January there were 8 cases of scarlet fever at Sparrows Point; in February, 13 at Overlea, and 5 each at Sparrows Point and Reisterstown. In March there were 13 cases of this disease at Granite; in April, 20 at Highlandtown; in May, 5 at Granite; in December, 14 at Sparrows Point and 12 at Highlandtown.

In January, 6 cases of diphtheria occurred at Roland Park. In April there were 8 cases at Highlandtown; in October, 9 cases at Highlandtown and 4 at Cockeysville; in November, 5 at Cockeysville; in December, 17 at Highlandtown and 6 at Rossville.

In February, 7 cases of whooping cough were reported from Arlington and 5 from Govans. In March there were 12 cases of this disease at Sparrows Point and 6 at Mt. Washington; in May, 14 cases at Sparrows Point; in June, 5 cases each at Highlandtown and Roland Park.

In late winter and spring, measles was mildly epidemic in certain sections of the county. In February, 39 cases were reported from Roland Park; in March, 60 from Catonsville and 13 from Roland Park; in April, 54 from Catonsville and 29 from the Industrial Home for Colored Girls at Melvale.

In January, 5 cases of chickenpox were reported from Warren and 4 from Granite. In February, 5 cases each from Glencoe and Middle River; in November, 7 from Freeland and 5 from Roland Park; in December, 20 from Catonsville, 9 from Sparrows Point and 8 from Roland Park.

In March, 10 cases of mumps were reported from Sparrows Point and 8 from Catonsville. In April, 10 cases each from Sparrows Point and Catonsville; in May, 17 cases from Catonsville; in December, 19 cases from Bengies.

During the first six months of this year smallpox prevailed at Warren and vicinity, the outbreak totaling 91 cases, distributed as follows: In February there were 29 cases of smallpox at Warren, 4 cases at Phoenix, 3 each at Lutherville, R. F. D. and Texas, and 1 at Sparks. In March there were 7 cases at Hillsdale, 6 at Ilchester, 3 at Warren, 2 at Mt. Winans, and 1 each at Garrison, Towson and Sparrows Point; in April, 5 each at Arlington and Warren, 3 at Ilchester, and 2 each at Sparrows Point and Hillsdale; in May, 6 cases at Canton and 1 at Sparrows Point; in June, 5 at Arlington and 1 at Cockeysville.

In July there were 2 cases of malaria at Arbutus; in August there were 6 cases at Colgate; in September, 4 at Halethorpe.

In December, 12 cases of impetigo were reported from the Westport Public School.

## CALVERT COUNTY.

(Area in Square Miles, 216.8; Population, 10,325.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever. . . . .	1	0	0	0	0	0	4	12	12	9	18	0	56
Scarlet fever . . . . .	0	1	1	1	0	0	0	0	0	0	0	0	3
Diphtheria. . . . .	0	0	0	0	0	0	0	0	0	0	0	1	1
Whooping cough . . . . .	0	2	0	0	0	0	0	1	0	0	0	0	3
Measles. . . . .	2	7	27	1	5	0	4	0	0	0	0	0	46
Mumps. . . . .	0	0	0	0	0	0	1	0	0	0	0	0	1
Chickenpox. . . . .	0	0	2	0	0	0	0	0	0	0	0	0	2
German measles . . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Meningitis. . . . .	0	0	0	0	0	1	0	0	2	0	0	0	3
Anterior poliomyelitis . . .	0	0	1	0	0	0	0	0	0	0	0	0	1
Total. . . . .	3	10	31	2	5	2	9	13	14	9	18	1	117

Late in the summer and in autumn, typhoid fever prevailed to an undue extent at Broome's Island, 3 cases having been reported in August, 6 in September, 4 each in October and November. In the latter month there were 6 cases of this disease at St. Leonard's and 3 at Wallville.

In March there were 16 cases of measles at Barstow, 5 at St. Leonard's and 4 at Broome's Island.

## CAROLINE COUNTY.

(Area in Square Miles, 317.4; Population, 19,216.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	1	0	0	0	1	0	0	8	39	8	13	0	70
Scarlet fever .....	2	0	0	0	0	0	0	1	2	0	1	0	6
Diphtheria. ....	5	2	0	3	0	2	1	0	0	4	4	0	21
Whooping cough. ....	0	1	8	12	10	0	6	1	0	0	1	0	39
Measles. ....	0	0	0	4	2	0	4	4	0	0	0	0	14
Influenza. ....	0	0	0	0	0	1	0	0	0	0	0	0	1
Mumps. ....	0	0	0	1	1	0	0	0	0	0	0	0	2
Chickenpox. ....	1	0	1	0	0	0	0	0	0	0	0	0	2
Meningitis. ....	0	0	0	0	0	0	0	0	0	2	0	0	2
Smallpox. ....	0	0	0	4	1	3	0	0	0	0	0	0	8
Acute dysentery .....	0	0	0	0	0	1	0	0	0	0	0	0	1
Total.....	9	3	9	24	15	7	11	14	41	14	19	0	166

In August, 4 cases of typhoid fever occurred at Bethlehem, R. F. D. In September typhoid assumed epidemic proportions at Greensboro, 19 cases having been reported; in the same month 6 cases were reported from Federalsburg and 5 from Preston. In October, 5 cases were reported from Greensboro; in November, 6 from Goldsboro.

In January, 2 cases of diphtheria were reported at Federalsburg; in October, 3 cases of this disease were reported from Denton; in November, 3 cases occurred at Ridgely.

In March, 3 cases each, of whooping cough, were reported from Federalsburg and Preston; in April, 8 cases of this disease were reported from Federalsburg and 4 from Preston; in May, 5 from Preston and 4 from Union Grove; in July, 6 from American Corner.

Four cases of smallpox were reported from Hillsboro in April and 1 case in May. In June, 3 cases of this disease were reported from Ridgely, R. F. D.

## CARROLL COUNTY.

(Area in Square Miles, 445.3; Population, 33,934.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	1	2	0	3	0	0	6	8	13	6	4	0	43
Scarlet fever .....	2	0	0	0	0	1	0	0	1	1	4	8	17
Diphtheria. ....	1	3	1	8	3	1	0	3	3	1	0	1	25
Whooping cough .....	1	1	4	2	11	26	4	2	0	0	0	0	51
Measles. ....	34	1	50	22	23	23	0	1	0	1	1	0	156
Influenza. ....	0	0	0	0	0	0	0	0	1	0	0	0	1
Erysipelas. ....	0	1	0	1	2	0	0	1	0	0	0	1	6
Mumps. ....	7	2	29	1	3	1	1	1	0	0	1	4	50
Chickenpox. ....	14	17	7	4	1	6	0	2	0	0	0	0	51
German measles .....	0	0	0	6	1	0	0	0	0	0	0	2	9
Meningitis. ....	0	0	0	0	0	0	1	0	0	0	0	0	1
Septic sore throat .....	1	0	0	0	0	0	0	0	0	0	0	0	1
Smallpox. ....	0	0	1	4	0	0	0	0	0	0	0	0	5
Acute dysentery. ....	0	0	0	0	0	0	0	0	1	0	0	0	1
Total.....	61	27	92	51	44	58	12	18	19	9	10	16	417

In September, 3 cases of typhoid fever were reported from Hood's Mill, and a like number from Marriottsville, R. F. D.

In December, 5 cases of scarlet fever were reported from Westminster.

In April, 4 cases of diphtheria were reported from Mt. Pleasant, and 2 cases from Pleasant Valley.

In May, 7 cases of whooping cough were reported from Westminster; in June, 18 cases of this disease occurred at Union Mills, and 6 at Silver Run.

Measles prevailed to an undue extent during the first six months. In January, 17 cases were reported from Sykesville, 6 from Sykesville, R. F. D., and 4 each from Eldersburg and Springfield State Hospital. In March, 41 cases of this disease reported from Westminster; in April, 16 cases from Westminster; in May, 7 from Westminster and 14 from Union Mills; in June, 8 from Carrollton and 5 each from Marston and New Windsor.

In March, 18 cases of mumps occurred at Uniontown and 6 at New Windsor.

In January there were 8 cases of chickenpox at Union Bridge, and 5 at Hampstead. In February, 7 cases of this disease occurred at Union Bridge and 5 at Marriottsville; in March, 4 cases at Union Bridge; in June, 6 at Detour.

In March, 1 case of smallpox occurred at Taneytown, R. F. D., in April, 4 additional cases developed at the same place. All 5 cases occurred in one household, white, unvaccinated, 4 females and one male.

### CECIL COUNTY.

(Area in Square Miles, 374.6; Population, 23,759.)

#### REPORTED CASES OF NOTIFIABLE DISEASES.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	1	0	0	2	4	5	2	4	9	3	5	4	39
Scarlet fever .....	19	4	9	7	2	0	0	0	0	0	2	5	48
Diphtheria. ....	1	1	0	0	0	1	2	0	1	0	1	1	8
Whooping cough .....	16	0	11	0	0	0	0	0	4	1	0	2	34
Measles. ....	2	2	0	0	0	22	12	0	0	0	0	0	38
Erysipelas. ....	0	0	0	0	0	0	0	0	1	0	0	0	1
Mumps. ....	0	0	0	0	0	1	0	0	0	0	0	0	1
Chickenpox. ....	2	0	0	0	0	0	0	0	0	0	0	0	2
Septicemia. ....	0	0	0	0	0	0	0	0	0	0	1	0	1
Total.....	41	7	20	9	6	29	16	4	15	4	9	12	172

In September, 3 cases of typhoid fever were reported from Northeast and 2 from Elkton. In November, 2 cases of this disease occurred at Northeast; in December, 2 cases occurred at Port Deposit.

In January, 5 cases of scarlet fever were reported from each Colora and Elkton, and 4 from Port Deposit. Seven cases of this disease were reported from Elkton in March, and 6 cases in April.

In January, 10 cases of whooping cough were reported from Conowingo and 6 from Cecilton. In March, 10 cases were reported from Cecilton.

Twenty-one cases of measles were reported from Northeast in June, and 12 cases in July.

## CHARLES COUNTY.

(Area in Square Miles, 462; Population, 16,386.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	3	8	0	4	2	1	8	19	22	14	16	2	99
Diphtheria .....	1	0	0	0	0	0	0	8	1	4	4	0	18
Measles .....	5	7	1	3	0	1	0	0	0	1	7	1	26
Scarlet fever .....	0	0	0	0	0	0	0	0	0	1	0	0	1
Whooping cough .....	0	0	0	0	0	6	0	0	0	0	0	0	6
Influenza .....	0	0	0	0	0	2	2	0	0	0	0	0	4
Erysipelas .....	0	0	0	1	0	0	0	0	0	1	0	0	2
Chickenpox .....	0	0	0	0	2	0	0	0	0	0	0	0	2
German measles .....	0	0	2	2	0	0	0	0	0	0	1	0	5
Malaria .....	0	0	0	0	0	1	0	0	0	68	0	0	69
Acute dysentery .....	0	0	0	0	0	0	1	0	0	1	0	1	3
Pellagra .....	0	0	0	0	0	0	1	0	0	0	0	0	1
Total.....	9	15	3	10	4	11	12	27	23	90	28	4	236

In February, 3 cases of typhoid fever were reported from Bryantown; in July, 5 cases of this disease were reported from Waldorf. In August, 10 cases were reported from Indian Head, and 2 each from Waldorf and Marbury. In September, 9 cases were reported from Indian Head, and 3 each from Pomfret and Pisgah. In October, 5 cases were reported from Indian Head, and 4 from Grayton. In November, 7 cases were reported from Indian Head and 3 from Pisgah.

In August, 8 cases of diphtheria occurred at Pisgah, in white persons, 6 males and 2 females. In October, 2 cases each, of this disease, were reported from Pisgah and Mason Springs; in November, 2 cases each from Pisgah and Berry.

In November, 4 cases of measles were reported from Indian Head, and 3 from Pomonkey.

Six cases of whooping cough occurred at Indian Head in June.

Malaria cases were reported in unusual numbers in October, 29 having occurred at Indian Head, 18 at Pisgah, 8 at Marbury and 3 at Pomonkey.

## DORCHESTER COUNTY.

(Area in Square Miles, 573.2; Population, 28,669.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	10	12	6	0	3	2	12	32	15	22	9	5	128
Scarlet fever .....	0	2	2	4	13	11	24	6	7	3	34	7	113
Diphtheria. ....	3	2	1	1	1	2	0	1	1	6	3	4	25
Whooping cough. ....	8	24	0	7	0	0	6	0	0	1	1	0	47
Measles. ....	270	182	35	9	9	0	0	0	0	0	0	0	505
Mumps. ....	0	0	0	0	7	0	0	0	0	0	0	0	7
Chickenpox. ....	0	0	1	0	0	2	0	1	0	0	0	0	4
Ophthalmia neonatorum .	1	0	0	0	0	0	0	0	0	0	0	0	1
German measles .....	0	0	0	0	2	0	0	0	0	0	0	0	2
Meningitis. ....	0	0	0	0	0	1	1	0	0	0	0	0	2
Acute dysentery .....	0	0	0	0	0	0	1	1	1	0	0	1	4
Tetanus. ....	0	0	0	0	0	0	1	0	0	0	0	0	1
Septicemia. ....	0	0	0	0	0	0	0	1	0	1	0	0	2
Total.....	292	222	45	21	35	18	45	42	24	33	47	17	841

Three cases of typhoid fever occurred at Hoopersville in January, and 7 in February. In July, 6 cases of this disease occurred at Cambridge. In August, 8 cases occurred at Cambridge, R. F. D., and 4 each at Lloyds and Reid's Grove. In September, 3 cases occurred at Cambridge; in October, 7 at Cambridge and 4 at Vienna.

Five cases of scarlet fever were reported at Woolford, in May, and 4 cases at Taylor's Island. In June, 4 cases of this disease were reported from Church Creek, and 3 from Woolford. In July, 10 cases were reported from Lakesville, 5 from Taylor's Island, and 3 each from Woolford and Crapo. In November, 10 cases were reported from Golden Hill, 8 from Andrews, 7 from Lakesville, and 3 each from Secretary and Williamsburg.

Nineteen cases of whooping cough occurred at Fishing Creek in February, and 4 at Golden Hill.

Measles was widespread during the winter months. In January, 116 cases were reported from Cambridge, 92 from



Taylor's Island, 7 from Lloyds, and 6 from Church Creek. In February, 57 cases were reported from Taylor's Island, 29 from Church Creek, 28 from Fishing Creek, 14 from Cambridge, 11 from Woolford, 10 from Vienna, 9 from Lloyds, and 5 from Golden Hill. In March, 16 cases were reported from Fishing Creek, 10 from Vienna, and 5 from Golden Hill.

### FREDERICK COUNTY.

(Area in Square Miles, 660; Population, 52,673.)

#### REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	1	1	1	0	1	4	7	21	35	13	7	4	95
Scarlet fever .....	18	22	7	2	1	1	1	1	3	13	21	8	98
Diphtheria .....	6	0	2	2	1	3	1	0	3	2	13	5	38
Whooping cough .....	0	0	0	1	0	2	1	2	2	2	1	17	28
Measles .....	0	0	5	0	0	0	0	0	0	3	0	0	8
Influenza .....	1	0	0	0	0	0	2	0	0	0	0	0	3
Erysipelas .....	0	0	0	0	0	0	0	0	0	0	0	1	1
Mumps .....	1	0	0	0	0	1	0	0	0	0	0	0	2
Chickenpox .....	2	3	0	1	0	0	0	2	0	0	11	8	27
German measles .....	0	1	2	18	0	1	2	0	1	0	0	0	25
Smallpox .....	0	0	0	5	1	0	0	0	0	0	0	0	6
Septicemia .....	0	0	0	0	0	2	1	0	0	0	0	0	3
Puerperal sepsis .....	0	0	0	0	0	1	0	0	0	0	0	0	1
Anterior poliomyelitis ..	0	0	0	0	0	1	0	0	0	0	0	0	1
Meningitis .....	0	0	0	0	0	0	1	0	0	0	0	0	1
Total .....	29	27	17	29	4	16	16	26	44	33	53	43	337

In August, 4 cases of typhoid fever occurred at Burkittsville, and 3 each at Walkersville and Ijamsville. In September, 16 cases of this disease occurred at Frederick and 5 at Brunswick; in October, 6 cases at Brunswick.

In January, 3 cases of scarlet fever occurred at Lewistown. In February, 16 cases of this disease occurred at Myersville; in October, 3 cases each at Myersville and Bartholows; in November, 4 cases at Buckeystown and 3 at New Market.

In November, 7 cases of diphtheria were reported from Mt. Airy, R. F. D.

In December, 13 cases of whooping cough occurred at Middletown.

In November, 10 cases of chickenpox were reported at Mount Pleasant.

In April, 6 cases of German measles were reported from Walkersville.

Six cases of smallpox were reported during the year, distributed, as follows: In April, Brunswick, 2, and one each at Brunswick, R. F. D., Frederick, R. F. D., and Frederick City Hospital. In May, one case occurred at Brunswick, R. F. D.

In June, one case of anterior poliomyelitis was reported from Middletown.

#### GARRETT COUNTY.

(Area in Square Miles, 681; Population, 20,105.)

#### REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	1	2	7	4	1	0	3	2	5	8	4	4	41
Scarlet fever .....	4	1	0	0	1	0	0	0	0	1	6	0	13
Diphtheria. . . . .	4	0	0	0	1	0	0	0	0	0	3	0	8
Whooping cough .....	0	0	0	0	0	0	1	0	0	0	0	0	1
Measles. . . . .	0	0	0	0	0	0	5	0	0	0	4	0	9
Mumps. . . . .	0	2	0	0	0	0	0	0	0	0	0	0	2
Meningitis. . . . .	0	0	0	0	0	0	0	0	0	0	0	1	1
<b>Total.....</b>	<b>9</b>	<b>5</b>	<b>7</b>	<b>4</b>	<b>3</b>	<b>0</b>	<b>9</b>	<b>2</b>	<b>5</b>	<b>9</b>	<b>17</b>	<b>5</b>	<b>75</b>

In March, 6 cases of typhoid fever were reported from Bloomington. In April, 3 cases of this disease were reported from Jennings; in September, 3 cases from Accident; in October, 2 each from Jennings and Oakland; in November, 3 from Bloomington; in December, 2 from Oakland.

In January, 4 cases of scarlet fever occurred at Accident, R. F. D.; in November, 4 cases at Swanton.

Two cases of diphtheria were reported at Oakland, R. F. D., in January; in November, 3 cases of this disease occurred at Mountain Lak Park.

Five cases of measles occurred at Oakland in July, and 4 cases in November.

## HARFORD COUNTY.

(Area in Square Miles, 439.8; Population, 27,965.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	11	0	3	0	1	1	4	6	7	3	9	2	47
Scarlet fever .....	1	0	0	2	0	0	0	2	5	1	2	9	22
Diphtheria. ....	1	6	0	0	0	1	1	1	0	1	3	1	15
Whooping cough .....	14	0	5	0	0	0	4	0	0	3	0	0	26
Measles. ....	0	0	0	0	0	0	0	1	3	0	0	0	4
Influenza. ....	0	0	0	0	0	0	0	0	1	0	0	0	1
Erysipelas. ....	0	0	0	0	0	0	0	0	0	0	0	1	1
Mumps. ....	7	0	0	0	4	5	0	0	0	4	2	0	22
Chickenpox. ....	1	1	0	0	0	0	0	0	0	3	4	2	11
Meningitis. ....	0	0	0	0	0	0	1	0	0	0	0	0	1
German measles .....	0	0	1	2	0	0	0	0	0	0	0	0	3
Smallpox. ....	0	0	1	0	0	0	0	0	0	0	0	0	1
Acute dysentery .....	0	0	0	0	0	0	0	0	1	0	0	0	1
Anterior poliomyelitis ..	0	0	0	0	0	0	0	0	0	0	0	1	1
<b>Total.....</b>	<b>35</b>	<b>7</b>	<b>10</b>	<b>4</b>	<b>5</b>	<b>7</b>	<b>10</b>	<b>10</b>	<b>17</b>	<b>15</b>	<b>20</b>	<b>16</b>	<b>156</b>

In January, 3 cases of typhoid fever occurred at each Perryman and Darlington. At Havre de Grace, 3 cases of this disease occurred in August, 5 in September and 3 in November. In the latter month, 5 cases occurred at Perryman.

In September, 3 cases of scarlet fever occurred at Aberdeen and 2 at Havre de Grace. In December, 4 cases of this disease occurred at Joppa, 3 at Havre de Grace, R. F. D., and 2 at Havre de Grace.

Five cases of diphtheria were reported from Perryman, in February.

In January, 5 cases of whooping cough were reported each from Darlington and Conowingo, R. F. D., and 4 cases from Aberdeen.

Five cases of mumps occurred at Conowingo, R. F. D., in January.

In March a smallpox case—a white female, aged 45 years—developed at Havre de Grace.

A case of anterior poliomyelitis was reported from Michaelsville, in December.

## HOWARD COUNTY.

(Area in Square Miles, 249.1; Population, 16,106.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	0	1	0	1	0	1	6	6	5	3	2	3	28
Scarlet fever .....	6	1	15	6	1	1	1	0	6	0	1	1	39
Diphtheria. ....	1	0	0	0	0	0	0	0	2	5	1	0	9
Whooping cough .....	26	15	1	1	7	5	10	0	0	1	0	5	71
Measles. ....	85	24	34	4	3	2	0	0	0	0	0	0	152
Erysipelas. ....	0	0	0	0	0	0	0	0	0	2	0	0	2
Mumps. ....	0	0	7	4	10	9	7	4	2	1	5	6	55
Chickenpox. ....	8	1	3	3	3	2	5	0	0	1	6	4	36
German measles. ....	0	0	6	0	11	5	0	0	0	0	0	0	22
Smallpox. ....	0	1	11	0	0	1	0	0	0	0	0	0	13
Septic sore throat. ....	3	0	0	0	0	0	0	0	0	0	0	2	5
Acute dysentery .....	0	0	0	0	0	0	1	0	0	0	0	0	1
Septicemia. ....	0	0	0	0	0	0	0	0	1	0	0	0	1
Tetanus. ....	0	0	0	0	0	0	0	0	1	0	0	0	1
Malaria. ....	0	0	0	0	0	0	0	0	2	0	0	0	2
Total.....	129	43	77	19	35	26	30	10	19	13	15	21	437

In July, 5 cases of typhoid fever were reported from Ellicott City; in August, 2 cases of this disease occurred each at Ellicott City and Ellicott City, R. F. D.; in September, 3 cases at Ellicott City.

In January, 3 cases of scarlet fever occurred at Elk Ridge and 2 at Ellicott City. In March, 5 cases each occurred at Dorsey and West Friendship, and 3 at Elk Ridge. In September, 4 cases occurred at Ellicott City, R. F. D., and 2 at Ellicott City.

In October, 2 cases each of diphtheria occurred at Ellicott City and Dayton.

In January, 8 cases of whooping cough occurred at Simpsonville, 7 at Fulton and 5 at Woodstock. In February, 6 cases of this disease occurred at Fulton and 5 at Woodstock; in July, 6 cases at Elkrige and 3 at Dorsey.

Measles was prevalent in January, 29 cases having been reported from Ellicott City, 16 from Elk Ridge, R. F. D., and 15 from Highland. In February, 9 cases were reported from Highland; in March, 14 cases from Simpsonville, and 6 each from Ilchester, R. F. D. and Highland.

In May, 4 cases of mumps were reported each from Elk Ridge and Savage; in June, 5 cases from Elk Ridge.

In January, 3 cases of chickenpox were reported from Jessups; in November, 3 cases of this disease were reported from Ellicott City.

In May, 5 cases of German measles occurred at Savage, and 3 cases at Simpsonville.

Thirteen cases of smallpox occurred in the county during the year, distributed as follows: In February, Ellicott City, one case; in March, 10 cases at Ilchester, R. F. D., and one at Ellicott City; in June, one case at Ellicott City, R. F. D.

#### KENT COUNTY.

(Area in Square Miles, 281; Population, 16,957.)

#### REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	5	2	0	0	0	1	2	3	1	2	2	12	30
Scarlet fever .....	0	2	0	0	0	0	0	0	1	0	0	1	4
Diphtheria. ....	0	0	1	0	0	0	0	0	0	0	0	0	1
Whooping cough .....	1	0	0	0	1	0	0	0	0	0	0	1	3
Measles. ....	0	0	2	0	0	0	1	4	2	6	21	0	36
Chickenpox. ....	1	5	3	0	2	2	0	0	0	0	0	1	14
Smallpox. ....	0	0	1	0	0	0	0	0	0	0	0	0	1
German measles .....	0	0	0	0	4	0	1	0	0	0	0	0	5
Scabies. ....	0	2	0	0	0	0	0	0	0	0	0	0	2
Meningitis. ....	0	0	1	0	0	0	0	0	0	0	0	0	1
<b>Total.....</b>	<b>7</b>	<b>11</b>	<b>8</b>	<b>0</b>	<b>7</b>	<b>3</b>	<b>4</b>	<b>7</b>	<b>4</b>	<b>8</b>	<b>23</b>	<b>15</b>	<b>97</b>

In January, 3 cases of typhoid fever were reported at Rock Hall, and 2 from Kennedyville, R. F. D. In December, 5 cases of this disease occurred at Kennedyville, R. F. D., and 2 each at Locust Grove, R. F. D. and Chestertown.

Measles was mildly epidemic at Kennedyville, in November, 17 cases having been reported.

In March, one case of smallpox—an unvaccinated colored man 35 years old—occurred in Chestertown.

## MONTGOMERY COUNTY.

(Area in Square Miles, 517.6; Population, 32,089.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	1	27	2	6	0	3	1	3	3	11	6	1	64
Scarlet fever .....	6	8	0	0	0	0	0	0	0	3	2	10	29
Diphtheria. ....	1	1	4	0	0	0	0	0	0	6	9	7	28
Whooping cough .....	0	0	0	0	0	1	0	0	0	12	0	1	14
Measles. ....	0	31	8	2	0	0	0	0	0	1	0	0	42
Influenza. ....	2	0	0	0	3	0	0	0	0	0	0	1	6
Erysipelas. ....	0	1	0	0	0	0	0	0	0	0	0	0	1
Mumps. ....	0	6	0	0	2	0	0	0	2	3	0	0	13
Chickenpox. ....	1	2	0	1	0	0	0	0	0	1	2	3	10
Smallpox. ....	0	7	13	0	0	1	0	0	0	0	0	0	21
German measles .....	0	8	22	8	1	0	0	0	0	0	1	0	40
Septic sore throat.....	0	0	0	0	7	0	0	0	0	0	0	0	7
Septicemia. ....	0	0	0	0	0	0	1	0	0	0	0	0	1
Total.....	11	91	49	17	13	5	2	3	5	37	20	23	276

A water-borne outbreak of typhoid fever, chiefly in February, occurred at Rockville, 23 cases having been reported during the month. Three cases of this disease occurred at Germantown, in October.

In January, 3 cases of scarlet fever occurred at Rockville, R. F. D.; in December, 3 cases at Derwood, R. F. D.

Six cases of diphtheria occurred at Germantown, R. F. D., in November.

In October, 7 cases of whooping cough occurred at Bethesda, and 5 at Oakdale.

Late in the winter measles was mildly epidemic at Takoma Park, 13 cases having been reported in February, and 8 in March. Also in February, 7 cases of this disease occurred at Forest Glen, and 6 at Bethesda.

Smallpox prevailed to an undue extent in late winter and spring, the cases totaling 21 for the year. In February, 4 cases of this disease occurred at Poolesville, R. F. D., one at Poolesville and 2 at Colesville. In March, 7 cases occurred at Colesville, 4 at Sellman, R. F. D., and 2 at Poolesville; in June, one case occurred at Spencerville.

At Takoma Park, 12 cases of German measles occurred in March, and 8 cases in April.

In May, 7 cases of septic sore throat occurred at Olney.

#### PRINCE GEORGE'S COUNTY.

Area in Square Miles, 479.6; Population, 36,147.)

#### REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	2	1	0	1	0	1	13	8	16	7	26	6	81
Scarlet fever .....	12	9	9	0	0	6	0	5	0	0	5	0	46
Diphtheria. ....	6	2	1	0	0	1	0	1	0	1	3	1	16
Whooping cough .....	0	0	3	0	1	5	1	4	2	0	0	0	16
Measles. ....	6	32	107	12	6	1	0	3	0	1	0	3	171
Influenza. ....	3	0	0	0	0	0	0	0	0	0	0	0	3
Mumps. ....	4	2	0	0	3	1	2	1	1	2	1	0	17
Chickenpox. ....	1	1	3	0	3	7	5	0	0	0	0	7	27
Smallpox. ....	0	1	8	2	0	0	0	0	0	0	0	0	11
German measles .....	0	6	23	45	2	1	0	0	0	0	0	0	77
Meningitis. ....	0	0	0	0	0	0	1	2	0	0	0	0	3
Anterior poliomyelitis ..	0	0	0	0	0	0	0	2	1	0	0	1	4
Acute dysentery .....	0	0	0	0	0	0	0	0	0	1	0	0	1
Scabies. ....	0	0	0	0	2	0	0	0	0	0	0	0	2
<b>Total.....</b>	<b>34</b>	<b>54</b>	<b>154</b>	<b>60</b>	<b>17</b>	<b>23</b>	<b>22</b>	<b>26</b>	<b>20</b>	<b>12</b>	<b>35</b>	<b>18</b>	<b>475</b>

In July, 7 cases of typhoid fever occurred at Beltsville, and 3 at Laurel. In September, 4 cases each of this disease occurred at Brentwood and Mt. Rainier. In November a localized outbreak occurred at Croom, with 15 recorded cases.

In January, 4 cases of scarlet fever occurred at Croom, and 3 at Laurel. In February, 5 cases of this disease occurred at Hyattsville.

Two cases of diphtheria were reported from Croom, in January.

In June, 4 cases of whooping cough occurred at Hyattsville; in August, 2 cases each occurred at Oxen Hill and Hyattsville.

Measles was mildly epidemic in certain sections of the county, in late winter and early spring. In February, 12 cases were reported at Mt. Rainier, 7 at Nottingham, and 4 at Berwyn. In March, 58 cases were reported at Mt. Rainier, 29 at Brentwood, and 4 at Berwyn. In April, 8 cases were reported at Brentwood.

There were also several localized outbreaks of German measles late in the spring. In March, 12 cases occurred at Berwyn, and 8 at Hyattsville; in April, 23 cases occurred at Brentwood, 12 at Mt. Rainier, 5 at Hyattsville, and 4 at Brandywine.

Four cases of infantile paralysis occurred during the year, distributed as follows: In August, Oxen Hill 2 cases, both colored, one male and one female; in September, one case—a colored female; and in December one case, a colored male, at Laurel.



## QUEEN ANNE'S COUNTY.

(Area in Square Miles, 363.4; Population, 16,839.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	3	0	1	0	1	1	2	7	10	21	5	8	59
Scarlet fever .....	21	16	23	6	6	6	1	6	0	2	2	4	93
Diphtheria. ....	1	0	0	4	0	0	0	0	0	0	1	5	11
Whooping cough .....	6	2	4	0	0	2	0	2	0	0	0	5	21
Measles. ....	1	1	1	0	1	0	0	0	0	0	1	1	6
Influenza. ....	0	0	0	0	0	0	0	0	0	0	1	0	1
Erysipelas. ....	0	0	0	0	0	0	1	0	0	0	0	0	1
Mumps. ....	0	2	8	0	0	0	0	0	1	0	1	2	14
Chickenpox. ....	6	2	21	0	0	0	0	0	0	0	10	17	56
German measles .....	0	1	7	1	0	0	1	0	0	0	0	0	10
Smallpox. ....	0	0	6	1	0	0	0	0	0	0	0	0	7
Meningitis. ....	0	0	0	0	0	0	0	1	0	0	0	2	3
Acute dysentery .....	0	0	0	0	0	0	0	0	1	0	0	0	1
Total.....	38	24	71	12	8	9	5	16	12	23	21	44	283

Quite a number of foci of typhoid fever occurred in the autumn and early in the winter. In September, 3 cases each of this disease were reported at Centreville and Ford's Store, and 2 cases at Roe. In October, 5 cases occurred at Centreville, 4 at Stevensville, 3 at Ford's Store, and 2 each at Chester and Sudlersville. In November, 2 cases each occurred at Ford's Store and Centreville; in December, 3 cases at Ford's Store.

Scarlet fever was also unduly prevalent in winter and spring. The largest number of cases occurred at Ford's Store, 13 having been reported in January, 4 in February and 9 in March. In January, 5 cases of this disease also occurred at Centreville; in February, 5 cases occurred at Centreville and 4 at Chester; in March, 5 at Winchester, and 3 each at Centreville and Chester. In August 4, cases occurred at Stevensville.

Two cases of diphtheria occurred at Barclay in April, and 3 at Templeville in December.

Three cases of whooping cough were reported from Queens-town in January, and 2 cases from Centreville. In December, 3 cases of this disease were reported from Centreville, and 2 from Queenstown.

Eight cases of mumps were reported from Centreville in March.

In March, 9 cases of chickenpox were reported at Carmichael, 5 at Wye Mills and 4 at Wye Mills, R. F. D. At Centreville, 9 cases of this disease occurred in November, and 15 cases in December.

Six cases of German measles occurred at Centreville in March.

Seven cases of smallpox occurred during the year. Six of these occurred in March, at Centreville, R. F. D., colored patients, 5 females and one male. In April one case of this disease, a colored male, occurred in Centreville.

#### ST. MARY'S COUNTY.

(Area in Square Miles, 369.1; Population, 17,030.)

#### REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	1	0	0	0	0	0	0	1	1	0	2	0	5
Scarlet fever .....	0	0	10	0	0	0	0	0	0	0	0	0	10
Diphtheria. . . . .	0	0	0	0	0	0	0	0	0	0	3	1	4
Measles. . . . .	4	0	0	0	0	0	0	0	0	0	0	0	4
Influenza. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
German measles .....	0	0	0	0	0	1	0	0	0	0	0	0	1
Septicemia. . . . .	0	0	0	0	0	0	0	1	0	0	0	0	1
Malaria. . . . .	0	0	0	0	0	0	0	0	0	0	0	1	1
Total.....	5	0	10	0	0	2	0	2	1	0	5	2	27

There were a few scattered cases of typhoid fever during the year. In January, one case occurred at Maddox; in August, one case at Beauvue; in September, one at Helen; in November, one each at Mechanicsville and Valley Lee.

Scarlet fever was mildly epidemic at Leonardtown in March, 9 cases having been reported. One case of this disease occurred at Oakville, in the same month.

In November, 2 cases of diphtheria occurred at Beauvue, and one at Leonardtown, R. F. D. In December, one case occurred at Brittons.

Four cases of measles occurred at Maddox, in January.

In December, one case of malaria—a white female—occurred at Laurel Grove.

### SOMERSET COUNTY.

(Area in Square Miles, 328.6; Population, 26,455.)

#### REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	10	2	5	2	2	1	6	12	10	10	20	4	84
Scarlet fever .....	4	6	3	0	0	0	0	0	0	2	3	7	25
Diphtheria. ....	1	4	4	0	7	0	2	0	0	5	1	8	32
Whooping cough .....	0	12	0	3	0	0	3	0	0	0	0	1	19
Measles. ....	23	20	4	19	9	7	10	1	7	0	0	0	100
Erysipelas. ....	0	0	0	0	0	0	0	0	0	0	0	1	1
Mumps. ....	0	1	0	0	0	0	1	0	2	2	0	0	6
Chickenpox. ....	0	6	0	0	0	0	0	0	0	1	0	0	7
Smallpox. ....	0	1	0	0	0	0	4	0	0	0	2	2	9
Septicemia. ....	0	0	0	0	0	0	1	0	0	0	0	0	1
Malaria. ....	0	0	0	0	0	0	0	0	1	0	0	0	1
Pellagra. ....	0	0	1	0	0	0	0	0	0	0	0	0	1
Acute dysentery .....	0	0	0	0	0	0	1	1	0	0	0	0	2
Meningitis. ....	0	0	0	0	0	0	0	1	0	0	0	0	1
<b>Total.....</b>	<b>38</b>	<b>52</b>	<b>17</b>	<b>24</b>	<b>18</b>	<b>8</b>	<b>28</b>	<b>15</b>	<b>20</b>	<b>20</b>	<b>26</b>	<b>23</b>	<b>289</b>

During the year numerous scattered cases of typhoid fever occurred throughout the county. In January, 5 cases occurred at Dames Quarter, and 2 at Westover. In March there were 2 cases each, of this disease, at Crisfield and Princess Anne. In July there were two cases at Upper Fairmount; in August, 5 at Crisfield, 3 at Princess Anne and 2 at Marion; in September, 3 at Eden and 2 at Bedsworth; in October, 3 at Westover

and 2 each at Princess Anne and Crisfield; in November, 4 at Crisfield, 3 at Princess Anne, and 2 each at Princess Anne, R. F. D., Eden, R. F. D., Fairmount and Marion; in December, 4 cases were reported at Crisfield.

There were also a few scattered cases of scarlet fever during the winter months. In January, 2 cases were reported at Princess Anne, R. F. D. In February, 3 at Crisfield, R. F. D. and 2 at Chance; in December, 2 each at Bedsworth, Hopewell and Lawsonia.

In February, 3 cases of diphtheria occurred at Chance. In March, 3 cases of this disease occurred at Crisfield; in May, 5 at Westover; in October, 5 at Chance; in December, 2 each at Crisfield, Oriole and Chance.

There was a mild outbreak of whooping cough in the vicinity of Pocomoke City, in February, 10 cases having been reported at Pocomoke City, R. F. D., and 2 from Manokin.

In January, 14 cases of measles occurred in Crisfield, 7 in Asbury District and 2 in Rumbley. In February, 8 cases occurred at Crisfield, and 6 each at Crisfield, R. F. D. and Pocomoke City, R. F. D. In April there were 9 cases at Princess Anne, 7 at Eden and 3 at Crisfield; in May, 7 at Princess Anne; in June, 3 each at Princess Anne and Dames Quarter; in July, 7 at Dames Quarter and 3 at Princess Anne; in September, 6 at Dames Quarter.

Four cases of chickenpox occurred at Dames Quarter, in February.

Nine cases of smallpox occurred in the county during the year. In February, one case of smallpox occurred at Crisfield; in July, there were 2 cases of this disease each at Loretta and Princess Anne, R. F. D.; in November, 2 at Princess Anne, R. F. D.; and in December, 2 at Crisfield.

In March a case of pellagra—a white female—was reported from Deal's Island.

## TALBOT COUNTY.

(Area in Square Miles, 267.1; Population, 19,620.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	1	0	0	0	0	0	5	7	10	9	14	6	52
Scarlet fever .....	5	4	3	0	2	6	0	0	0	1	2	5	28
Diphtheria. . . . .	0	0	0	1	0	0	4	2	3	0	2	1	13
Whooping cough .....	2	0	0	0	0	1	0	1	0	4	6	17	31
Measles. . . . .	1	0	0	3	0	0	0	0	0	0	0	1	5
Erysipelas. . . . .	0	0	0	0	0	0	0	1	0	0	0	0	1
Mumps. . . . .	0	0	2	9	0	0	0	0	0	0	0	1	12
Chickenpox. . . . .	0	0	1	0	0	0	0	0	0	4	0	1	6
Smallpox. . . . .	0	1	6	0	0	0	0	0	0	0	0	0	7
Malaria. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Acute dysentery .....	0	0	0	0	0	0	0	0	1	0	0	0	1
Anterior poliomyelitis ...	0	0	0	0	0	0	0	0	0	1	0	0	1
Ophthalmia neonatorum..	0	0	0	0	0	0	0	0	0	0	0	1	1
<b>Total.....</b>	<b>9</b>	<b>5</b>	<b>12</b>	<b>13</b>	<b>2</b>	<b>8</b>	<b>9</b>	<b>11</b>	<b>14</b>	<b>19</b>	<b>24</b>	<b>33</b>	<b>159</b>

Scattered cases of typhoid fever occurred in the summer and autumn, lasting well into the winter months. In July there were 3 cases of this disease at St. Michaels; in August, 5 cases at Easton; in September, 3 each at Easton and the Emergency Hospital; and 2 at Tilghman; in October, 6 at Easton and 2 at Trappe; in November, 5 at St. Michaels, 4 at Trappe and 3 at Easton; in December, 3 at Trappe and 2 at Easton.

At Trappe there were 2 cases of scarlet fever in January; at Wye Mills, 4 cases in February and 2 in March. In June there were 6 cases of this disease at Tilghman, and in December, 3 cases at Fairbank.

In July, 4 cases of diphtheria occurred in Easton.

Whooping cough was mildly epidemic at McDaniel, in December, with 13 cases reported. In the same month 3 cases of this disease were reported at Wittman.

In April, 9 cases of mumps were reported from Easton.

Four cases of chickenpox occurred at Easton in October.

Seven cases of smallpox occurred during the year, as follows: In February one case, a colored male, at Wittman; in March, 5 cases at Wittman and one at Bellview, all colored, 5 males and one female.

In June a case of malaria was reported at Easton, R. F. D.

A case of anterior poliomyelitis, a white female, occurred at Tilghman in October.

A case of ophthalmia neonatorum—an unusual disease—was reported in December, at McDaniel. The patient was a colored male.

## WASHINGTON COUNTY.

(Area in Square Miles, 457.3; Population, 49,567.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	2	3	7	3	6	5	8	16	21	11	12	2	96
Scarlet fever .....	6	21	9	6	5	2	1	11	1	10	20	11	103
Diphtheria .....	13	10	8	6	1	2	1	4	7	17	31	16	116
Whooping cough .....	8	4	4	0	1	1	1	3	0	2	0	3	27
Measles .....	3	12	9	12	4	4	0	1	1	0	0	0	46
Influenza .....	0	0	0	0	1	0	0	0	0	0	0	0	1
Erysipelas .....	0	1	1	2	1	0	2	0	0	0	0	0	7
Mumps .....	3	5	5	7	2	1	0	1	0	0	2	1	27
Chickenpox .....	5	9	4	1	0	0	2	0	3	0	14	13	51
German measles .....	0	0	0	0	2	0	0	0	0	0	0	0	2
Smallpox .....	0	0	0	0	0	0	1	0	0	1	5	0	7
Septicemia .....	0	0	0	0	0	0	0	0	1	0	1	0	2
Meningitis .....	0	0	0	1	0	0	0	0	2	1	0	0	4
Acute dysentery .....	0	0	0	0	0	0	0	0	1	0	0	0	1
Ring worm .....	0	0	0	0	0	0	0	0	0	0	1	0	1
Malaria .....	0	0	0	0	0	0	0	0	0	0	0	2	2
<b>Total.....</b>	<b>40</b>	<b>65</b>	<b>47</b>	<b>38</b>	<b>23</b>	<b>15</b>	<b>16</b>	<b>36</b>	<b>37</b>	<b>42</b>	<b>86</b>	<b>48</b>	<b>493</b>

Communicable diseases prevailed pretty extensively in Washington County, throughout the year. In Hagerstown, 11 cases of typhoid fever occurred in August, 10 in September and 5 in November. In October, 3 cases of this disease occurred at Chewsville; in November, 3 cases at Weverton.

More than the usual quota of scarlet fever cases occurred, especially in Hagerstown, where there were 9 cases of this disease in February, 9 also in March, 5 in April, 6 in October, 14 in November and 9 in December. In February there were 4 cases each at Weverton and Beaver Creek; in August, 7 at Hancock.

An excessive number of diphtheria cases also occurred. In Hagerstown, 11 cases of this disease were reported in January, 5 in February, 6 in March, 9 in October, 22 in November, and 9 in December. In February, 4 cases of this disease occurred at Funkstown. In Williamsport there were 6 cases in October, 7 in November; and 3 in December.

Five cases of whooping cough were reported at Hagerstown, in January.

In February, 6 cases of measles occurred at Hagerstown, R. F. D., and 4 in Hagerstown. In April, 8 cases of this disease occurred in Hagerstown.

Six cases of mumps were reported from Hagerstown, in April.

In Hagerstown, 5 cases of chickenpox occurred in February, 4 in March, 8 in November and 13 in December. In February, 3 cases of this disease occurred at Big Spring; in November, 3 cases at Brownsville.

Seven cases of smallpox occurred, as follows: In July, one at Hancock; in October, one case—a white male—at Smithsburg; in November, 5 in Hagerstown, white, 3 males and 2 females.

## WICOMICO COUNTY.

(Area in Square Miles, 368.9; Population, 26,815.)

## REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	5	5	0	1	0	12	18	22	8	11	9	3	94
Scarlet fever .....	0	0	1	0	0	3	2	1	0	1	0	0	8
Diphtheria. ....	0	0	0	0	1	0	0	0	0	0	0	3	4
Whooping cough .....	0	1	0	0	1	4	0	1	0	0	0	0	7
Measles. ....	10	28	55	32	15	6	0	1	0	0	0	0	145
Influenza. ....	0	0	0	0	0	1	0	0	0	0	0	0	1
Erysipelas. ....	0	1	0	1	0	0	0	0	0	0	0	0	2
Mumps. ....	0	1	0	0	0	0	0	0	0	0	0	0	1
Chickenpox. ....	0	0	0	0	0	0	0	0	0	0	2	0	2
Smallpox. ....	0	0	0	0	2	5	0	0	0	0	0	0	7
Acute dysentery .....	0	0	0	0	0	0	0	4	0	1	1	0	6
Puerperal sepsis .....	0	0	0	0	0	0	0	1	0	0	0	0	1
Malaria. ....	0	0	0	0	0	0	0	0	0	1	0	0	1
Total.....	15	34	56	34	19	31	20	30	8	14	12	6	279

In February, 2 cases of typhoid fever were reported from each Salisbury and Fruitland. In June, 6 cases of this disease occurred at Salisbury; in July, 17 cases were treated at the Peninsular General Hospital, Salisbury. Eight cases occurred at Salisbury in August, 4 in September, 5 in October and 6 in November. In August there were also 6 cases of typhoid at Fruitland, 4 at the Peninsular General Hospital and 3 at Delmar.

Three cases of scarlet fever occurred at Salisbury in June, and 2 cases in July.

Measles was mildly epidemic in certain sections of the county. In Salisbury, 19 cases of this disease were reported in February, 16 in March and 6 in May. At Salisbury, R. F. D., 21 cases were reported in March, 16 in April and 8 in May. In March, 7 cases were also reported from Allen and 9 from Siloam. In April, 10 cases were reported from Fruitland; in May, 4 from Allen.



In Salisbury there were 2 cases of smallpox (both colored) in May, and 5 cases in June.

In October one case of malaria occurred at Salisbury. The patient was a colored female.

#### WORCESTER COUNTY.

(Area in Square Miles, 491.5; Population, 21,841.)

#### REPORTED CASES OF NOTIFIABLE DISEASES, 1914.

<i>Diseases.</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Typhoid fever .....	3	1	0	2	2	1	3	6	14	3	29	2	66
Scarlet fever .....	0	0	0	1	0	0	1	0	0	0	0	0	2
Diphtheria. . . . .	5	2	0	0	0	0	0	0	0	0	0	0	7
Whooping cough .....	0	0	0	0	0	9	1	0	2	0	0	0	12
Measles. . . . .	0	3	0	13	42	24	1	1	0	1	0	0	85
Smallpox. . . . .	0	0	0	0	0	0	0	0	0	0	5	0	5
Malaria. . . . .	0	0	0	0	0	0	0	1	0	0	2	0	3
<b>Total.....</b>	<b>8</b>	<b>6</b>	<b>0</b>	<b>16</b>	<b>44</b>	<b>34</b>	<b>6</b>	<b>8</b>	<b>16</b>	<b>4</b>	<b>36</b>	<b>2</b>	<b>180</b>

In Ocean City there were 2 cases of typhoid fever in August, and 3 cases in September. In the latter month there were also 3 cases of this disease each at Snow Hill, Snow Hill, R. F. D., and Pocomoke City. In October, 2 cases occurred at Showell; in November, 10 at Pocomoke City, 3 at Pocomoke City, R. F. D., 5 at Newark and 4 at Showell.

Four cases of diphtheria were reported from Ocean City in January.

In June, 7 cases of whooping cough occurred at Girdletree.

There were 11 cases of measles at Stockton, in April; in May, 33 cases of this disease occurred at Berlin; in June, 10 cases at Snow Hill, 8 at Showell and 3 at Whaleyville.

In November, 4 cases of smallpox were reported from Pocomoke City; the patients were unvaccinated colored persons, 2 males and 2 females. In the same month one case of smallpox, a colored male, was reported from Pocomoke City, R. F. D.

Three cases of malaria were reported during the year, as follows: One case in August, a colored female, at Stockton; in November, in Snow Hill, one case—a white female; in the latter month, in Berlin, one case—a colored male.

#### IV. OCCUPATIONAL DISEASES.

In 1914 a total of 132 reports of occupational diseases and disabilities, chiefly from the Bureau of Child Labor, was received. The list includes a variety of ailments, many of which are merely symptoms rather than definite diseases. The apathy of physicians in reporting such conditions is general, and it still continues.

Perhaps the most distressing industrial disease accident of the whole year occurred on April 29th, two men losing their lives by gas asphyxiation, a third recovering after a critical illness of a week's duration. The accident took place in the gas-engine house at Sparrows Point, Baltimore County. This part of the plant was then in the course of construction; to its unfinished condition the unfortunate accident was attributed.

The following table displays the cases of occupational diseases and disabilities for 1914, arranged by months and diseases. The indefinite terms used in many instances detract from the value of this report. Although occurring in the latter part of April, the three cases of gas poisoning appear in the May column, having been reported in that month.

## OCCUPATIONAL DISEASES—MORBIDITY, 1914.

<i>Disease or Disability</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Laryngitis. . . . .	3	0	0	0	0	0	0	0	0	0	0	0	3
Flat-foot. . . . .	1	0	0	0	0	2	0	0	0	0	0	0	3
Toxemia. . . . .	12	1	0	0	3	0	0	0	0	2	2	7	27
Dermatitis. . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Myalgia. . . . .	1	1	0	0	1	1	0	0	0	2	0	1	7
Bronchitis. . . . .	1	0	0	0	0	0	0	0	0	2	0	0	3
Accidental burns. . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Laceration of hands. . . . .	4	0	0	0	0	0	0	0	0	0	0	0	4
Doffer's cramps. . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Nicotine poisoning. . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Atrophy of nasal and pharyngeal mucosa. . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Nasal, laryngeal and bronchial irritation. . . . .	1	0	0	0	0	0	0	0	0	0	0	1	2
Laryngeal and bronchial irritation. . . . .	2	0	0	0	1	0	0	0	0	0	0	0	3
Laryngitis and bronchitis. . . . .	1	0	0	0	1	0	0	0	0	1	0	0	3
Nasal, pharyngeal and bronchial irritation. . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Muscular cramps. . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Lead poisoning. . . . .	0	1	0	0	1	0	0	0	0	0	0	0	2
Glucose poisoning. . . . .	0	1	0	0	0	0	0	0	0	0	0	0	1
Nervous exhaustion. . . . .	0	1	0	0	0	0	0	0	0	0	1	0	2
Asthenopia. . . . .	0	1	0	0	0	2	0	0	0	0	0	0	3
Cotton fibre bronchitis. . . . .	0	1	0	0	0	0	0	0	0	0	0	0	1
Chronic laryngitis. . . . .	0	1	0	0	0	0	0	0	0	0	0	0	1
Gastric neurosis. . . . .	0	1	0	0	0	0	0	0	0	0	0	0	1
Wood alcohol poisoning. . . . .	0	1	0	0	0	0	0	0	0	0	0	0	1
Acute toxemia. . . . .	0	1	0	0	0	0	0	0	0	0	0	0	1
Occupational myopia. . . . .	0	0	0	0	1	0	0	0	0	0	0	0	1
Aniline dye poisoning. . . . .	0	0	0	0	1	0	0	0	0	0	0	0	1
Asphyxiation by gas. . . . .	0	0	0	0	3	0	0	0	0	0	0	0	3
Neurosis. . . . .	0	0	0	0	0	3	0	0	0	0	0	0	3
Left lateral spinal curvature. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Neurasthenia. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Tobacco toxemia. . . . .	0	0	0	0	0	1	0	0	0	0	1	0	2
Nervous exhaustion. . . . .	0	0	0	0	0	4	0	0	0	0	0	0	4
Toxemia (vitiated air). . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Toxemia (fumes). . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Byssinosis. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Extensive burns of hands. . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Toxemia (dyes). . . . .	0	0	0	0	0	1	0	0	0	0	0	0	1
Progressive myopia. . . . .	0	0	0	0	0	0	1	0	0	0	0	0	1
Excessive cardiac hypertrophy with regurgitation. . . . .	0	0	0	0	0	0	1	0	0	0	0	0	1
Hypertrophy of heart and varicocele. . . . .	0	0	0	0	0	0	1	0	0	0	0	0	1
Gas poisoning. . . . .	0	0	0	0	0	0	3	0	0	0	0	0	3
Total forwarded. . . . .	33	11	0	0	12	20	6	0	0	7	4	9	102

## OCCUPATIONAL DISEASES—MORBIDITY, 1914 (Continued).

<i>Disease or Disability</i>	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Total forwarded.....	33	11	0	0	12	20	6	0	0	7	4	9	102
Bronchitis and toxemia.....	0	0	0	0	0	0	0	0	0	1	0	0	1
Chemical toxemia .....	0	0	0	0	0	0	0	0	0	3	0	0	3
Drug toxemia .....	0	0	0	0	0	0	0	0	0	1	0	0	1
Wood alcohol poisoning.....	0	0	0	0	0	0	0	0	0	1	0	0	1
Lacerated & contused fingers.	0	0	0	0	0	0	0	0	0	1	0	0	1
Ulcerated hands .....	0	0	0	0	0	0	0	0	0	2	0	0	2
Occupational neurosis. ....	0	0	0	0	0	0	0	0	0	0	2	0	2
Occupational dermatitis .....	0	0	0	0	0	0	0	0	0	0	1	0	1
Occupational bronchitis .....	0	0	0	0	0	0	0	0	0	0	1	0	1
Occupational asthenopia .....	0	0	0	0	0	0	0	0	0	0	1	1	2
Occupational neurasthenia ..	0	0	0	0	0	0	0	0	0	0	2	0	2
Lacerated forefinger .....	0	0	0	0	0	0	0	0	0	0	1	0	1
Eye strain .....	0	0	0	0	0	0	0	0	0	0	1	0	1
Headaches. . . . .	0	0	0	0	0	0	0	0	0	0	1	0	1
Extensive burns .....	0	0	0	0	0	0	0	0	0	0	1	0	1
Bronchial irritation .....	0	0	0	0	0	0	0	0	0	0	0	1	1
Fibroid bronchitis .....	0	0	0	0	0	0	0	0	0	0	0	1	1
Furunculosis of hands.....	0	0	0	0	0	0	0	0	0	0	0	1	1
Severe burns .....	0	0	0	0	0	0	0	0	0	0	0	1	1
Laceration of fingers & hands.	0	0	0	0	0	0	0	0	0	0	0	2	2
Occupational conjunctivitis ..	0	0	0	0	0	0	0	0	0	0	0	1	1
Sprain of muscles.....	0	0	0	0	0	0	0	0	0	0	0	1	1
Occupational rheumatism ...	0	0	0	0	0	0	0	0	0	0	0	1	1
Total.....	33	11	0	0	12	20	6	0	0	16	15	19	132

## V. CASES EXAMINED FOR DIAGNOSIS.

In 1914, in the counties of Maryland, a total of 121 cases of exanthematous disease was examined for the purpose of assisting the physician or health officer in making the diagnosis. In a majority of these instances, smallpox was the disease suspected.

Of the 121 cases of sickness examined, 80 were white persons and 41 were colored; 79 were males and 42 were females. Fifteen of the 23 Maryland counties were represented.

A table will follow, showing the number of cases examined for diagnosis, by counties and months. Baltimore County readily stands first, with a total of 51 cases; Queen Anne's County, with 20 cases, is second.

## CASES EXAMINED FOR DIAGNOSIS BY COUNTIES.

	<i>January.</i>	<i>February.</i>	<i>March.</i>	<i>April.</i>	<i>May.</i>	<i>June.</i>	<i>July.</i>	<i>August.</i>	<i>September.</i>	<i>October.</i>	<i>November.</i>	<i>December.</i>	<i>Total.</i>
Allegany Co. ....	0	0	0	0	0	0	0	0	0	1	0	0	1
Anne Arundel Co. ....	0	0	4	1	0	0	0	0	0	0	0	3	8
Baltimore Co. ....	6	8	16	9	5	3	0	4	0	0	0	0	51
Caroline Co. ....	0	0	0	2	1	0	0	0	0	0	0	0	3
Frederick Co. ....	0	0	0	4	0	0	0	0	0	0	0	0	4
Harford Co. ....	0	0	0	0	0	0	0	0	0	2	1	0	3
Howard Co. ....	0	1	7	0	0	0	0	0	0	0	0	0	8
Kent Co. ....	0	0	1	0	0	0	0	0	0	0	0	0	1
Montgomery Co. ....	0	3	0	0	0	0	0	0	0	0	0	0	3
Prince George's Co. ....	1	1	1	2	0	3	0	0	0	0	0	0	8
Queen Anne's Co. ....	0	0	20	0	0	0	0	0	0	0	0	0	20
Somerset Co. ....	0	0	0	0	0	0	3	0	0	0	1	0	4
Talbot Co. ....	0	0	5	0	0	0	0	0	0	0	0	0	5
Washington Co. ....	0	0	0	0	0	0	0	0	0	1	0	0	1
Worcester Co. ....	0	0	0	0	0	0	0	0	0	0	1	0	1
Total.....	7	13	54	18	6	6	3	4	0	4	3	3	121

The next table will show the number of cases examined for diagnosis, by months and diseases, the list including 14 diseases. Smallpox, with a total of 82 cases, constitutes the largest number; chickenpox, with 22 cases, is second. The number of cases of the other diseases examined is very small.

## CASES EXAMINED FOR DIAGNOSIS, BY MONTHS AND DISEASES.

	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Measles. . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Pustular lues . . . . .	1	0	0	0	0	0	0	0	0	0	0	0	1
Smallpox. . . . .	4	11	38	13	6	3	3	0	0	2	2	0	82
Chickenpox. . . . .	1	1	14	2	0	3	0	0	0	0	0	1	22
Erythema multiforme . . . . .	0	1	0	1	0	0	0	0	0	0	0	0	2
Drug eruption . . . . .	0	0	1	0	0	0	0	0	0	0	0	0	1
Urticaria. . . . .	0	0	1	0	0	0	0	0	0	0	0	0	1
Rhus poisoning . . . . .	0	0	0	1	0	0	0	0	0	0	0	0	1
Pityriasis rubra pilaris. . . . .	0	0	0	1	0	0	0	0	0	0	0	0	1
Thrush. . . . .	0	0	0	0	0	0	0	1	0	0	0	0	1
Poison ivy . . . . .	0	0	0	0	0	0	0	2	0	0	0	0	2
Furunculosis. . . . .	0	0	0	0	0	0	0	1	0	0	0	0	1
Anthrax reaction . . . . .	0	0	0	0	0	0	0	0	0	2	0	0	2
Scarlet fever . . . . .	0	0	0	0	0	0	0	0	0	0	1	2	3
Total. . . . .	7	13	54	18	6	6	3	4	0	4	3	3	121

## VI. PROSECUTIONS.

Dr. T. W. B., Prince George's County: For failure to notify typhoid fever (6 cases), July-August, 1914. Cases pending.

## Bureau of Bacteriology.

WM. ROYAL STOKES, M. D., Chief Bacteriologist.

DR. JOHN S. FULTON,  
*Secretary, State Department of Health,*  
*Baltimore, Md.*

DEAR SIR:

I hereby respectfully report upon the work performed in the Bureau of Bacteriology during the year 1914. Table No. 1 shows that there were 3,866 examinations made for the physicians throughout the State in order to aid in the diagnosis of the various communicable diseases. This shows a slight decrease from 1913, when 4,517 such examinations were made. We made 3,187 examinations of water, milk and other foods, for the control and improvement of the general cleanliness and sanitary condition of such materials. The work in detail is set forth in Table No. 1 which follows:

TABLE No. 1.

EXAMINATIONS FOR THE DETECTION OF DISEASES AND INSANITARY  
CONDITIONS.

	<i>Positive.</i>	<i>Negative.</i>	<i>Suspicious.</i>	<i>Unsatisfactory.</i>	<i>Total.</i>
Typhoid fever . . . .	370	754	70	8	1,202
Malaria. . . . .	2	231	0	68	301
Tuberculosis. . . . .	391	864	1	5	1,261
Diphtheria. . . . .	309	670	0	8	987
Miscellaneous (Examinations of Rabies, Gonococcus, Typhoid Blood Culture, Feces and Urine Specimens) . . . . .					115
Examination of Water . . . . .					2,707
Examination of Milk . . . . .					165
Examination of Cream . . . . .					3
Examination of Oysters . . . . .					225
Examination of Canned Goods . . . . .					3
Examination of Catsups . . . . .					77
Examination of Ice . . . . .					2
Examination of Ice Cream . . . . .					2
Examination of Disinfectants . . . . .					3
Total Number of Examinations . . . . .					7,053

**BACTERIOLOGICAL EXAMINATION OF WATER AND SEWAGE.**

During the year we made 2,707 bacteriological examinations of water and sewage. These results were reported to Mr. Robert B. Morse, Chief of the Bureau of Sanitary Engineering, who has used them in the control of the water supplies and sewage plants throughout the State.

**BACTERIOLOGICAL EXAMINATION OF MILK.**

In 155 of the bacteriological examinations the milk was classified as good or bad according to the following classification: Milk containing less than 500,000 bacteria per cubic centimeter or less than 1,000,000 leucocytes with streptococci, or milk with 1,000,000 leucocytes per cubic centimeter without an excessive number of streptococci, is classified as good. When milk contains 500,000 bacteria per cubic centimeter or over, or 1,000,000 leucocytes per cubic centimeter or over combined with an excessive number of streptococci, the milk is classified as bad. According to this classification 92 samples of milk were good and 63 were bad.

**BACTERIOLOGICAL EXAMINATION OF OYSTERS.**

During the past year we made 225 examinations of specimens of oysters, five sets being used in each case to obtain the so-called sanitary score which is based upon the presence of the colon bacillus in different quantities of water. We examined 35 sets of oysters in the shell or so-called shell stock from specimens taken directly from the oyster beds in some of the rivers. If the score is based upon the actual isolation of the colon bacillus from these oysters we found that 27 sets were below 50 and 8 had a score of 50 or over. If confirmed by sanitary inspection and the bacteriological examination of the water, oysters scoring 50 or over are considered as unfit for use as food. If the score, however, is based upon the presumptive test for the colon bacillus without its actual isolation we found 19 sets of oysters with a score below 50 and 16 sets with a score above 50. A positive presumptive test in the vast majority of instances indicates the presence of the colon or intestinal bacillus, and assuming this test as a criterion, we found only 19 out of 35 sets of oysters examined from the oyster beds could be considered as fit for human consumption.



It might be added, however, that these oysters were obtained from rivers obviously polluted by large quantities of sewage coming from some of the larger cities and towns of the State.

In four sets of oysters examined from shucked stock obtained from some city dealers all of the colon bacillus and presumptive test scores were above 50.

These examinations, though few in number, indicate some interesting conditions in the Severn River, especially around Annapolis. In the examination of an oyster bed known as Upper Point Rock at the north end of Round Bay the colon bacillus score was 50 and the presumptive score was 150, while the average bacterial count from the five oysters was 17,500. This condition might indicate some local pollution but proceeding down the river, the oyster beds Round Bay bar, Poppin Point bar, Brewer bar, Aisquith Creek bar, Clemm's Point bar, Chase's bar, Sharp Point bar, Wade's bar, Lower Weems bar, Peach Orchard bar, and Upper Weems bar, all show colon isolation scores below 50 and only two of these show a presumptive test score of 50 each. These oyster beds are above Annapolis and probably receive but little pollution from the sparsely settled banks of the Severn River.

The results obtained from the examination of the oyster beds in the Severn River north, northeast, east, and southeast of Annapolis show entirely different conditions, and the water at this point receives numerous pollutions from the sewage of Annapolis and adjacent points. In order to obtain a correct knowledge of this condition the colon bacillus scores and the bacterial counts from oysters from the various bars are given in detail:

Ferry Point Bar—Bacterial count 3,840 per c. c.; colon bacillus isolation score 230; presumptive test score 4,200.

Crece's Cove Bar—Bacterial count 36,200 per c. c.; colon bacillus isolation score 1,400; presumptive test score 4,200.

Little Sandy Point Bar—Bacterial count 14,800 per c. c.; colon bacillus isolation score 50; presumptive test score 320.

Old Fort Bar—Bacterial count 27,600 per c. c.; colon bacillus isolation score 410; presumptive test score 1,400.

Inside Greenbury Point—Bacterial count 1,760 per c. c.; colon bacillus isolation score 40; presumptive test score 230.

Horn Point Bar—Bacterial count 3,840 per c. c.; colon bacillus isolation score 320; presumptive test score 410.

Chink's Point Bar—Bacterial count 4,440 per c. c.; colon bacillus isolation score 20; presumptive test score 320.

White Hall Bar—Bacterial count 9,800 per c. c.; colon bacillus isolation score 30; presumptive test score 140.

Hackett Point Bar—Bacterial count 3,440 per c. c.; colon bacillus isolation score 50; presumptive test score 230.

Tolly's Point Bar—Bacterial count 3,260 per c. c.; colon bacillus isolation score 40; presumptive test score 320.

Scull Hall Bar—Bacterial count 4,200 per c. c.; colon bacillus isolation score 40; presumptive test score 320.

It can be seen from the above that practically all of these beds show scores which are higher than the allowable score for sanitary oysters. Inside Greenbury Point Bar, Chink Point Bar, White Hall Bar, Tolly Point Bar and Scull Hall Bar show an actual colon isolation score of below 50, but all of the presumptive test scores are above 50. The result from the oyster bed in Spa Creek shows 7,700 bacteria per c. c., a colon bacillus isolation score of 410, and a presumptive test score of 4,100.

These results are quite in keeping with the bacteriological examination of the water of the Severn River at this point, since all of the samples of water taken over these oyster bars show the presence of the colon isolation test or presumptive test for the colon bacillus in 10 and 1 cubic centimeters, and three of them in 0.1 cubic centimeter. The examination of Spa Creek shows marked concentrated pollution by sewage, the bacteria per c. c. being 125,000 and the colon bacillus being isolated in as small a quantity as 0.01 cubic centimeter.

The examination of the water over the oyster bars in the upper portion of the Severn River above the area where the sewage of Annapolis is disposed shows the presence of the colon bacillus usually in 10 cubic centimeters of water and the presence of the presumptive test for the colon bacillus in 8 out of 12 samples in 1 cubic centimeter of water. This result indicates that the upper waters of the Severn River are not entirely free from intestinal pollution, but the oysters do not indicate anything like the same degree of pollution as those around Annapolis. The following tables Nos. 2 and 3 show the results obtained from the bacteriological examinations of the water over the oyster beds in the upper and lower portions of the Severn River.

TABLE No. 2.

RESULTS OF THE BACTERIOLOGICAL EXAMINATION OF WATER COLLECTED OVER  
OYSTER BEDS IN UPPER SEVERN ABOVE ANNAPOLIS.

Date—April 2, 1914.

Sample No.	Laboratory No.	Source.	Bacteria per c. c.	Colon Bacillus in 10 c. c.	Colon Bacillus in 1 c. c.	Colon Bacillus in 0.1 c. c.	Colon Bacillus in 0.01 c. c.	Colon Bacillus in 0.001 c. c.
1..	W. 3597..	Upper Point Rock Bar....	500	X	0	0	0	0
2..	W. 3598..	Round Bay Bar.....	800	P.T.P.	P.T.P.	0	0	0
4..	W. 3599..	Poppin Point Bar.....	700	X	0	0	0	0
5..	W. 3600..	Brewer's Bar .....	1,600	X	P.T.P.	P.T.P.	0	0
6..	W. 3601..	Aisquith Creek Bar.....	800	X	0	0	0	0
7..	W. 3602..	Clem's Point Bar.....	1,000	X	P.T.P.	0	0	0
8..	W. 3603..	Chase Bar .....	3,500	X	0	0	0	0
9..	W. 3604..	Sharp's Bar .....	1,000	P.T.P.	P.T.P.	0	0	0
10..	W. 3605..	Wade's Bar .....	2,500	P.T.P.	X	0	0	0
11..	W. 3606..	Lower Weems Bar.....	1,600	P.T.P.	P.T.P.	P.T.P.	0	0
12..	W. 3607..	Peach Orchard Bar.....	2,200	X	X	0	0	0
14..	W. 3608..	Upper Weems Bar.....	4,000	X	X	0	0	0

X—Colon bacillus present.

0—No fermentation in lactose bile.

P.T.P.—Presumptive test positive.

RESULTS OF THE BACTERIOLOGICAL EXAMINATION OF WATER COLLECTED OVER  
OYSTER BEDS IN LOWER SEVERN RECEIVING SEWAGE FROM ANNAPOLIS.

Date—June 1, 1914.

Sample No.	Laboratory No.	Source.	Bacteria per c. c.	Colon Bacillus in 10 c. c.	Colon Bacillus in 1 c. c.	Colon Bacillus in 0.1 c. c.	Colon Bacillus in 0.01 c. c.	Colon Bacillus in 0.001 c. c.
1..	W. 3960..	Ferry Bar .....	1,200	X	X	X	0	0
2..	W. 3961..	Crece's Cove .....	1,200	X	X	X	0	0
3..	W. 3962..	Little Sandy Point.....	2,800	X	X	0	0	0
4..	W. 3963..	Old Fort Bar.....	2,800	X	0	0	0	0
5..	W. 3964..	Inside Greenbury Point...	75	X	P.T.P.	0	0	0
6..	W. 3965..	Horn Point Bar.....	80	X	X	0	0	0
7..	W. 3966..	Chink's Point (No Sample of Water).						
8..	W. 3967..	White Hall Bar.....	50	P.T.P.	P.T.P.	0	0	0
9..	W. 3968..	Hackett's Point Bar.....	25	P.T.P.	0	0	0	0
10..	W. 3969..	Tolly's Point Bar.....	70	P.T.P.	P.T.P.	0	0	0
11..	W. 3970..	Scul Hall Bar.....	30	X	0	0	0	0
12..	W. 3971..	Spa Creek .....	125,000	X	X	X	X	0

An investigation was made of the oyster beds in the Tred Avon River and in Trippe Creek, a branch of this river. Results of the examinations of the oyster beds in Trippe Creek were as follows: Baker's Cove bar showed an average bacterial count of 3,800 per c. c., a presumptive test score of 44, and a colon bacillus isolation score of 1. Trippe bar showed an average bacterial count of 19,800, a presumptive test score of 33, and a colon bacillus isolation score of 3. Old House Point bar gave an average bacterial count of 5,400 per c. c., a presumptive test score of 33, and a colon bacillus isolation score of 0. Baming's Cove bar gave an average bacterial count of 7,220 per c. c., a presumptive test score of 5, and a colon bacillus isolation score of 0.

These oyster bars are all inside of Trippe Creek and the results obtained from the examinations of the oysters do not show any high scores indicating serious pollution.

The oyster beds in the Tred Avon River above the mouth of Trippe Creek and proceeding up the river towards Easton were next examined and the following results obtained:

The oysters from Marshy bar gave an average bacterial count of 2,200, with a presumptive test score of 5, and a colon bacillus isolation score of 1.

Orem bar gave an average bacterial count of 4,880 per c. c., a presumptive test score of 4, and a colon bacillus isolation score of 1.

Flatly bar gave an average bacterial count of 1,520 per c. c., a presumptive test score of 11, and a colon bacillus isolation score of 0.

Double Mills bar gave an average bacterial count of 7,420, a presumptive test score of 23, and a colon bacillus isolation score of 0.

Johnson bar gave an average bacterial count of 2,400, a presumptive test score of 33, and a colon bacillus isolation score of 4.

Camden Point bar gave an average bacterial count of 380 per c. c., a presumptive test score of 50, and a colon bacillus isolation score of 5.

Watermelon Point bar gave an average bacterial count of 450 per c. c., a presumptive test score of 5, and a colon bacillus isolation score of 2.

These results do not show scores which would indicate any dangerous intestinal pollution.

The results of the bacteriological examinations of water samples over the oyster beds collected from the Tred Avon show low bacterial counts but the colon bacillus isolation test or the presumptive test is positive in all the samples in 10 cubic centimeters of water. The colon bacillus was isolated in 1 cubic centimeter from the oyster bars nearer Easton beginning with Flatly bar, but it was not present in the sample from the bar nearest Easton, namely: Watermelon Point bar.

The results of these water examinations show that the water from the oyster bars nearer Easton could not be considered as safe drinking water, since the colon bacillus was present in 10 and 1 cubic centimeter samples in all but one instance. The presumptive test scores would seem to indicate that the intestinal organisms are present in the oysters from these bars in about the same quantities of water, namely: 10 and 1 cubic centimeters, but in very few instances was the colon bacillus actually isolated from these presumptive scores. Certainly in the majority of instances the presumptive test indicates the presence of an intestinal organism, and the results, therefore, indicate about the same degree of intestinal pollution in the oysters as that found in the water over the oyster beds. The results of the bacteriological examinations of the water collected over the various oyster bars follow in Table No. 4:

RESULTS OF THE BACTERIOLOGICAL EXAMINATION OF WATER SAMPLES COLLECTED  
FROM THE TRED AVON RIVER NEAR EASTON, MD.

Date—January 27, 1914.

Sample No.	Laboratory No.	Source.	Bacteria per c. c.	Colon Bacillus in 10 c. c.	Colon Bacillus in 1 c. c.	Colon Bacillus in 0.1 c. c.	Colon Bacillus in 0.01 c. c.	Colon Bacillus in 0.001 c. c.
11..W. 3316..		Baker's Cove Bar.....	100	P.T.P.	0	0	0	0
12..W. 3317..		Trippe Bar .....	100	X	0	0	0	0
13..W. 3318..		Old House Point Bar.....	500	P.T.P.	0	0	0	0
14..W. 3319..		Baming's Cove Bar.....	150	X	0	0	0	0
15..W. 3320..		Marshy Bar .....	75	0	0	0	0	0
16..W. 3321..		Orem Bar .....	60	X	0	0	0	0
17..W. 3322..		Flatly Bar .....	100	X	X	0	0	0
18..W. 3323..		Double Mills Bar.....	140	X	X	0	0	0
19..W. 3324..		Johnston Bar .....	35	X	X	0	0	0
20..W. 3325..		Camden Point Bar.....	350	P.T.P.	X	0	0	0
21..W. 3326..		Watermelon Point Bar....	250	P.T.P.	0	0	0	0

The report of the inspector concerning the various potential sources of pollution of the Tred Avon River shows that he was only able to find one toilet which emptied directly into the river at Easton Point about a mile and three-quarters above the nearest oyster bar. There were nine houses located at the head of Peach Blossom Creek which emptied sewage overboard but this would be about two miles east of the nearest oyster bed in the Tred Avon River. On Dixon Creek it was stated that there were two sewage pipes emptying into the stream, one of the pipes taking care of the sewage from three houses. This empties into the Tred Avon River about one-half a mile above the nearest oyster bed. On the Tred Avon River proper from Eastern Point to Trippe Creek it was stated that there were about five houses emptying sewage into the river, so that all of these various scattered sources of pollution might introduce intestinal organisms into the river water. About a mile above Easton Point there is a sewage disposal plant for the city of Easton. The system is supplied with two settling tanks, a discharge from these settling tanks after disinfection emptying into the head waters of the Tred Avon River. Unless this sewage is thoroughly disinfected this plant might also add intestinal pollution to the river, which might reach the oyster beds. The Easton Gas Plant is located on the outskirts of the town and the waste products from the manufacture of gas could be seen along the banks and ditch running from Glenwood Avenue to the river. The pipes from the gas works were also discharging into this ditch and this effluent was waste water used in the washing of gas during its manufacture. It is difficult to say whether such a pollution would furnish a proper nutrition to the intestinal organisms introduced from the other sources of pollution so that the intestinal organisms would increase in number from the increased nourishment afforded. It was said that there were probably several houses on Trippe Creek emptying sewage into the river. It should be stated that the information obtained in the sanitary survey of the river and creek was only secured from residents and not verified by the inspector.

#### MISCELLANEOUS EXAMINATIONS.

Table No. 1 will show the various miscellaneous examinations which were made for the State Commissioner of Food

and Drugs, Dr. Charles Caspari, Jr. These included the examination of canned goods, catsups, cream, ice cream, ice and disinfectants. The results of these examinations were reported to the Commissioner for appropriate action.

The distribution of antityphoid vaccine is described in a special article by the Assistant Chief, Dr. H. W. Stoner, and it is gratifying to see that 4,836 individuals were immunized against typhoid fever by this method during 1914. For further particulars I would refer you to the following article:

#### DISTRIBUTION OF ANTITYPHOID VACCINE, 1914.

*By H. W. Stoner, M. D.*

During 1914 the Bacteriological Laboratory of the State Department of Health prepared and distributed 4,836 complete doses of antityphoid vaccine. Seventeen hundred and fifty-six of these were used in institutions, as shown in Table No. 5, and the remaining 3,080 by private citizens.

TABLE No. 5.

SHOWING DISTRIBUTION OF ANTI-TYPHOID VACCINE IN INSTITUTIONS, 1914.

Springfield State Hospital.....	1,150
Western Maryland Hospital, Cumberland.....	4
Peninsula Hospital, Salisbury.....	20
Crownsville Hospital .....	130
Spring Grove Hospital.....	2
Maryland House of Correction.....	450
Total.....	1,756

The increased demand for the vaccine by citizens is very gratifying, showing that the value of this prophylactic is becoming more generally recognized as one of the most effective agents in the prevention of enteric fever. Table No. 6 shows the distribution of vaccine by years to institutions and to private individuals.

TABLE No. 6.

<i>Year.</i>	<i>Institutions.</i>	<i>Private Citizens.</i>	<i>Total.</i>
1911.....	(Records are incomplete)		1,589
1912.....	1,437	480	1,917
1913.....	1,600	1,196	2,796
1914.....	1,756	3,080	4,836
Total.....			11,138

Ever since we started the preparation of the vaccine in 1910 we have especially advised its use in institutions, industrial plants, mining and construction camps, to travellers and to members of households in which there is typhoid fever.

During the year 1914 two industrial plants have used 2,050 doses of the vaccine. These were the West Virginia Paper Pulp Co. of Westernport, Md., 1,600 doses, and the United States Testing Station at Indian Head, Md., 450 doses. These are included in the doses for private citizens in Table No. 6. There is also a gradually increasing demand for vaccine for the immunization of members of households in which there are cases of typhoid fever.

The results obtained at the two industrial plants referred to above are of interest and will be described in some detail.

We are indebted to Dr. R. H. Riley, Cumberland, Md., who has made a recent study of the results of antityphoid vaccination in Maryland for the following statistics:

Dr. C. C. Kress of Indian Head, who had charge of the inoculations at the government plant at that place, states: "This place has been a veritable hot bed of typhoid fever in the past. No cases of typhoid fever have developed in 500 inoculations with State Department vaccine in one year." Fifty-three doses of vaccine not included in the above 450 doses were sent to physicians in private practice at Indian Head.

At Westernport there was a widespread epidemic of typhoid fever early in 1914. This epidemic became so widespread that the West Virginia Paper Pulp Co. required all employees to be vaccinated. Those who refused and who could not show that they had had typhoid recently were not allowed to continue work. Besides the 1,600 doses of vaccine furnished for employees of this company, 67 doses were furnished physicians in private practice. Eight cases of typhoid fever were reported among persons who had been vaccinated against typhoid fever in this vicinity. One of these was vaccinated with an outside official vaccine and one with a commercial vaccine. Of the remaining six cases one was doubtful, having had a mild febrile attack lasting but one week; a second case had had but two doses of vaccine. This series of cases is interesting from the fact that the attack rate among the inoculated was unusually high. The fact that individuals vac-



minated with other vaccines were attacked would indicate that the epidemic was a severe one, and that none of the vaccines used were wholly effective in preventing the disease.

#### CONCLUSIONS.

The bacteriological examination of milk in the first place shows that many more examinations of this should be made in order to obtain a proper idea of the milk supply, and from the few examinations made it might be concluded that a fair proportion of the milk throughout the state might be made cleaner and more sanitary by proper methods.

The examination of the oysters shows that there are special areas in the harbors and rivers around the larger cities of the state where oyster beds show evidences of dangerous pollution.

Satisfactory results have been obtained from the large number of antityphoid doses distributed to the citizens.

In conclusion, I desire to express my appreciation of the faithful work of the various employees of the Bureau.

## Chemistry.

W. B. D. PENNIMAN, Chief Chemist.

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BALTIMORE, MD., December 10, 1915.

DR. JOHN S. FULTON,  
*Secretary, State Department of Health,  
Baltimore, Maryland.*

DEAR SIR:

Below you will find a list of analyses made by the Bureau of Chemistry during the year 1914. We have included in this list the analyses made by the Bureau for other Bureaus, but it does not include the analyses made in connection with investigating work.

We are still following up the rule laid down by the General Counsel, that in addition to the information obtained from the Government Laboratories, fundamental data regarding all methods and standards must be obtained in this laboratory as a necessary preliminary to prosecution.

The most important investigations that have been made during the year have been as follows:

*Methods of Water and Sewage Analyses*—This investigation has been very extensive, and has resulted in our being able to recommend to the Bureau of Sanitary Engineering the gathering of one pint samples for chemical analysis. These samples can be sent in by parcels post, and will result in a great saving of expense, not only in the original cost of containers, but in expressage. The determinations that we will make from these one pint samples are as follows:

Total Residue;  
Chlorine;  
Free Ammonia;  
Albumenoid Ammonia;  
Nitrates;

Nitrites;  
 Color;  
 Hardness;  
 Alkalinity;  
 Iron;  
 Turbidity.

We have devised a new apparatus for the determination of added chlorine or bleaching powder for drinking supplies, which we are now using as a check upon the various water supplies in the purification of their water.

We have also investigated the methods used for the examination of malt liquors, maple and mixed table syrups, and have completed the investigation on our laboratory method for the determination of camphor, and certain essential oils in extracts.

We have also done a good deal of cooperative work with the A. O. A. C. on the determination of heavy metals, and have suggested certain improvements now under investigation by the Association and the National Canners' Laboratories.

A very tedious and laborious investigation was carried on in the attempt to prepare digitonin (one of the glucosides of digitalis). This material is particularly needed as a reagent in the examination of lard. The investigation has been suspended, as the European war has made the raw material unobtainable.

#### DAIRY PRODUCTS.

Cream—within the limits.....	4 analyses.
Milk. . . . .	123 "
85 samples within the limit.	
38 samples not within the limit.	
Butter. . . . .	30 "
14 samples within the limit.	
16 samples not within the limit.	
Ice Cream . . . . .	328 "
312 samples within the limit.	
16 samples not within the limit.	
Evaporated Milk . . . . .	36 "
10 samples within the limit.	
26 samples not within the limit.	
Condensed Milk . . . . .	23 "
21 samples within the limit.	
2 samples not within the limit.	

## OILS AND FATS.

Lard. . . . .	133	"
95 samples within the limit.		
78 samples not within the limit.		
10 marked "Compound."		
Olive Oil, for information. . . . .	1	"

## LIQUORS.

Porter—within the limit. . . . .	6	"
Beer—within the limit. . . . .	3	"
Near Beer—not within the limits. . . . .	4	"
Jamaica Rum—not within the limits. . . . .	2	"
Parsley Gin—not within the limits. . . . .	1	"

## CANNED GOODS.

Tomato Pulp—not within the limits. . . . .	17	"
Canned Tomatoes—not within the limits. . . . .	4	"

## CATSUPS.

Tomato Catsup. . . . .	45	"
29 samples within the limits.		
16 samples not within the limits.		

## VINEGAR.

Vinegars. . . . .	439	"
307 samples within the limits.		
132 samples not within the limits.		

## MEATS.

Hamburg Steak—within the limits. . . . .	2	"
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## EXTRACTS.

Essence of Peppermint. . . . .	406	"
270 samples within the limit.		
136 samples not within the limit.		
Oil of Peppermint—for information. . . . .	1	"
Extract of Anise—for information. . . . .	1	"
Extract of Thyme—for information. . . . .	1	"
Extract of Lemon—for information. . . . .	6	"
3 samples within the limit.		
3 samples not within the limit.		
Extract of Cassia—for information. . . . .	1	"
Extract of Nutmeg—for information. . . . .	1	"
Extract of Cloves—for information. . . . .	1	"
Extract of Wintergreen—for information. . . . .	1	"
Extract of Peppermint—for information. . . . .	1	"
Extract of Orange—for information. . . . .	1	"
Extract of Vanilla—not within the limits. . . . .	4	"

## MISCELLANEOUS.

Human Milk . . . . .	1	"
Jelly—for information. . . . .	1	"
Macaroni. . . . .	8	"
Bacon and Beans. . . . .	1	"
Part Skimmed Milk. . . . .	1	"
Maple Sugar and Mixed Syrups—within limits as marked . . . . .	14	"

Peerless Preserving Powder—for information...	1	"
Constituent Baking Powder—for information...	1	"
Chocolate Covered Maraschino Cherries.....	2	"
Cider—for information .....	1	"
Coffee. . . . .	1	"

## DRUGS.

Tincture of Iodine.....	407	"
270 samples within the limits.		
137 samples not within the limits.		
Spirits of Camphor.....	244	"
166 samples within the limits.		
78 samples not within the limits.		
Mercurial Ointment .....	102	"
62 samples within the limits.		
40 samples not within the limits.		
Witch Hazel. . . . .	5	"
4 samples within the limits.		
1 sample not within the limits.		
Bay Rum. . . . .	10	"
2 samples within the limits.		
8 samples not within the limits.		
Alcohol—for information. . . . .	3	"
Camphorated Oil—within the limits.....	3	"

Tests were made on twelve samples of Tincture of Iodine, which we have been keeping for four years and retesting from time to time, to ascertain the changes they undergo.

## WATERS.

Allegany County .....	59 analyses.
Anne Arundel County.....	102 "
Baltimore County .....	281 "
Calvert County .....	3 "
Caroline County .....	21 "
Carroll County .....	31 "
Cecil County .....	47 "
Charles County .....	9 "
Dorchester County .....	81 "
Frederick County .....	51 "
Garrett County .....	7 "
Harford County .....	23 "
Howard County .....	28 "
Kent County .....	39 "
Montgomery County .....	69 "
Prince George's County.....	35 "
Queen Anne's County.....	30 "
St. Mary's County.....	1 "
Somerset County .....	9 "
Talbot County .....	21 "
Washington County .....	42 "
Wicomico County .....	7 "
Worcester County .....	20 "
Table Waters .....	25 "

## ICE.

Allegany County .....	1	"
Kent County .....	1	"

## SEWAGE.

Baltimore County .....	9	"
Carroll County .....	5	"
Talbot County .....	12	"
Special analyses on waters.....	436	

Total..... 3,987 analyses.

## Report of the State Food and Drug Commissioner.

*To the State Board of Health of Maryland.*

GENTLEMEN:—

Herewith I beg to submit my report for the twelve months ending December 31, 1914.

As shown by the schedule below, 1,863 samples of food and drugs were purchased and analyzed during the year 1914, of which number, 1,584 were passed and 279 were alleged to be in violation of the Pure Food and Drugs Act.

During the four and a half years of the existence of the Law great improvements have been noticeable in the conditions which were met with at the outset, and it is safe to say that violations of the Law will grow annually less, as manufacturers and dealers become more thoroughly familiar with the requirements. Violations due to fraudulent intent are but rare now, and it is hoped that with more expeditious handling of cases placed in the hands of the State's Attorneys, which I am glad to say is now the rule rather than the exception, more publicity is given to the existence and enforcement of the law for protection of the public against inferior food and drugs.

### LIST OF SAMPLES OF FOODS AND DRUGS ANALYZED FROM JANUARY 1st, 1914, TO JANUARY 1st., 1915.

	<i>Passed.</i>	<i>Not Passed.</i>
Bay Rum. . . . .	2	5
Beer. . . . .	8	..
Butter. . . . .	11	8
Camphorated Oil. . . . .	2	2
Catsup. . . . .	31	12
Canned Tomatoes. . . . .	..	4
Coffee. . . . .	1	..
Extract of Vanilla. . . . .	..	2
Extract of Lemon. . . . .	1	3
Hamburg Steak. . . . .	2	..
Ice Cream. . . . .	317	3
Jamaica Rum. . . . .	1	..
Lard. . . . .	109	42

	<i>Passed.</i>	<i>Not Passed.</i>
Macaroni. . . . .	8	..
Mercurial Ointment. . . . .	70	15
Condensed Milk. . . . .	24	1
Evaporated Milk. . . . .	12	2
Milk. . . . .	20	2
Parsley Gin. . . . .	..	1
Spirit of Camphor. . . . .	162	27
Spirit of Peppermint. . . . .	264	45
Tincture of Iodine. . . . .	229	57
Vinegar. . . . .	310	48
	<hr/> 1,584	<hr/> 279

Continuing the investigation of oyster beds, begun in 1913, inspections were made in the months of January, April and June of the past year, of some of the waters and beds suspected of pollution by sewage and otherwise. In all, 35 oyster bars were visited, from each of which 12 representative specimens were taken and promptly delivered to the State Bacteriologist for examination in accordance with the rules and regulations adopted by the Shell Fish Commission of the National Public Health Association.

Quoting from statements issued by Dr. W. R. Stokes, State Bacteriologist, whose report on this work will be submitted separately, it may be said that with five exceptions all the oysters collected were well within the limits of the official score (50) fixed by the Federal Government for the condemnation of oysters. While the colon bacillus was found in 1 Cc. of the oyster juice in the majority of cases examined, the score varied between one and forty; in the five exceptions above referred to, however, the score reached 230, 230, 410, 410 and 1,400, respectively, showing gross pollution of the water, which was directly traceable to Spa Creek near Annapolis.

The presumptive test for the presence of colon bacilli was reported positive in every case, but, as stated in my 1913 report, this cannot be used for scoring purposes. Examination of the waters taken from over the oyster bars at depths ranging from 5 to 18 feet, showed the same to contain the bacillus in 10 Cc. in nearly all cases, in 1 Cc. in some cases and in a few cases in 0.1 Cc.; the water from Spa Creek, which appears simply as diluted sewage, even showed the presence of colon bacilli in 0.01 Cc.



It affords me much satisfaction to be able to report that the many cases pending in the Criminal Court of Baltimore City for more than a year were finally disposed of, although the action of the Grand Jury in dismissing a number of these cases is difficult to understand, in view of the fact that the evidence of violation of the law, and the prospects for conviction, were fully as strong as in other cases where indictments were secured. Of the 24 cases remaining untried on the Court Docket on January 1, 1914, six were dismissed, and in 18 cases convictions were secured, as shown by the following schedules:

## SETTLEMENT OF CASES CARRIED OVER FROM 1912 AND 1913 IN THE CRIMINAL COURT OF BALTIMORE CITY.

<i>City, Town or County.</i>	<i>Laboratory No.</i>	<i>Name of Defendant.</i>	<i>Date Sample Was Purchased.</i>	<i>Why Prosecuted.</i>	<i>Final Disposition of Case.</i>
Baltimore. . . . .	2858	Jos. S. Fox. . . . .	Jan. 29, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	2888	Chr. F. Kurrle. . . . .	Feb. 2, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	2890	A. Rossert. . . . .	Feb. 2, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	2912	Bernheimer Bros. Feb. 7, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs	
Baltimore. . . . .	2914	Bernheimer Bros. Feb. 7, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs	
Baltimore. . . . .	2922	Simpson's M. Mkt Feb. 8, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs	
Baltimore. . . . .	2925	Mor. A. Benesch. Feb. 8, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs	
Baltimore. . . . .	2926	Chas. A. Benson. Feb. 8, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs	
Baltimore. . . . .	2959	W. H. Simpson. . . . .	Feb. 12, 1912	Sulphur dioxide in chopped beef.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	3454	F. Lautenbach. . . . .	June 8, 1912	Deficiency of ferric chloride in tincture of ferric chloride.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	3529	Wm. Pensel. . . . .	June 12, 1912	Deficiency of ferrous iodide in syrup of ferrous iodide.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	3600	Geo. H. Stuart. . . . .	June 13, 1912	Deficiency of ferric chloride in tincture of ferric chloride.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	4091	Jno. M. Wiesel. . . . .	July 23, 1912	Deficiency of ferric chloride in tincture of ferric chloride.	Plead guilty; paid fine of \$5 and costs.

## SETTLEMENT OF CASES CARRIED OVER FROM 1912 AND 1913 IN THE CRIMINAL COURT OF BALTIMORE CITY.

CONTINUED.

<i>City, Town or County.</i>	<i>Laboratory No.</i>	<i>Name of Defendant.</i>	<i>Date Sample Was Purchased.</i>	<i>Why Prosecuted.</i>	<i>Final Disposition of Case.</i>
Baltimore. . . . .	4180	Whitfield Ch. Co. Aug.	6, 1912	Deficiency of ferric chloride in tincture of ferric chloride.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	4235	A. Lapouralle... Aug.	12, 1912	Deficiency of ferric chloride in tincture of ferric chloride.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	4264	H. H. Watchman Aug.	13, 1912	Deficiency of ferric chloride in tincture of ferric chloride.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	4281	C. F. Freyer..... Aug.	13, 1912	Deficiency of ferric chloride in tincture of ferric chloride.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	4838	W. H. Simpson... Dec.	20, 1912	Presence of cotton seed oil in lard.	Plead guilty; paid fine of \$5 and costs
Baltimore. . . . .	5256	H. C. Hubbard.. Aug.	25, 1913	Deficiency of butter fat in cream.	Dismissed by grand jury.
Baltimore. . . . .	5361	L. M. Chenoweth. Sept.	23, 1913	Selling renovated butter as fresh butter.	Dismissed by grand jury.
Baltimore. . . . .	5392	F. W. Rosenthal. Sept.	24, 1913	Selling renovated butter as fresh butter.	Dismissed by grand jury.
Baltimore. . . . .	5393	W. J. McCormick. Sept.	24, 1913	Selling renovated butter as fresh butter.	Dismissed by grand jury.
Baltimore. . . . .	5402	E. H. Dahne..... Sept.	25, 1913	Selling renovated butter as fresh butter.	Dismissed by grand jury.
Baltimore. . . . .	5446	L. S. Hewell..... Sept.	30, 1913	Selling renovated butter as fresh butter.	Dismissed by grand jury.

The following fifteen cases, named in my 1912 and 1913 reports, as pending in the Criminal Court of Baltimore City, were finally disposed of in June, 1914, the Grand Jury having failed to find presentments against the alleged traversers:

Geo. A. Fox.....Lab. No. 3296	A. H. Parlett.....Lab. No. 3548
J. H. Blass.....Lab. No. 3317	A. H. Parlett.....Lab. No. 3550
Geo. W. Joeckel.....Lab. No. 3327	Chas. Feick. ....Lab. No. 3551
C. E. P. Osbon.....Lab. No. 3336	M. Perel. ....Lab. No. 3639
C. L. P. Osbon.....Lab. No. 3338	D. A. Kammer.....Lab. No. 3791
Muse & Co.....Lab. No. 3360	Fennell's Pharmacy, Lab. No. 4108
Muse & Co.....Lab. No. 3407	Sophia Willens. ....Lab. No. 4839
Chas. W. McCaulley. Lab. No. 3448	

The two cases against Morris Pressprich, Lab. Nos. 2911 and 6811, were stettet by the State's Attorney because the traverser has left the State.

Of the 49 cases ordered by the Board to be prosecuted, during the past year, 7 were dismissed by the Grand Jury, 38 were tried and convictions secured in every case, while 4 are still pending in the courts.

## LIST OF PROSECUTIONS BROUGHT UNDER THE FOOD AND DRUGS LAW OF MARYLAND DURING 1914.

<i>City, Town or County.</i>	<i>Laboratory No.</i>	<i>Name of Defendant.</i>	<i>Date Sample Was Purchased.</i>	<i>Why Prosecuted.</i>	<i>Final Disposition of Case.</i>
Baltimore. . . . .	5484	Deflice & Trombetta.	Oct. 15, 1913	Deficiency of butter fat in ice cream.	Dismissed by grand jury.
Hagerstown. . . . .	5615	Wareham's City Phar.	Dec. 11, 1913	Deficiency of mercury in mercurial ointment.	Plead guilty; paid fine of \$10 and costs.
Boonsboro. . . . .	5625	S. Seibert Davis	Dec. 12, 1913	Deficiency of oil of pepper-mint in spirit of pepper-mint.	Plead guilty; paid fine of \$5 and costs.
Boonsboro. . . . .	5626	S. Seibert Davis	Dec. 12, 1913	Deficiency of iodine in tincture of iodine.	Plead guilty; paid fine of \$10 and costs.
Emmitsburg. . . . .	5695	T. E. Zimmerman	Dec. 16, 1913	Deficiency of oil of pepper-mint in spirit of pepper-mint.	Plead guilty; paid fine of \$10 and costs.
Emmitsburg. . . . .	5696	T. E. Zimmerman	Dec. 16, 1913	Deficiency of camphor in spirit of camphor.	Plead guilty; paid fine of \$10 and costs.
Thurmont. . . . .	5701	Waters Phar. . . . .	Dec. 17, 1913	Deficiency of oil of pepper-mint in spirit of pepper-mint.	Dismissed by grand jury.
Brunswick. . . . .	5731	A. G. Horne. . . . .	Dec. 19, 1913	Deficiency of oil of pepper-mint in spirit of pepper-mint.	Plead guilty; paid fine of \$10 and costs.
Brunswick. . . . .	5732	A. G. Horne. . . . .	Dec. 19, 1913	Deficiency of iodine in tincture of iodine.	Plead guilty; paid fine of \$10 and costs.
Brunswick. . . . .	5733	A. G. Horne. . . . .	Dec. 19, 1913	Deficiency of camphor in spirit of camphor.	Plead guilty; paid fine of \$10 and costs.
Brunswick. . . . .	5734	H. D. Barnett. . . . .	Dec. 19, 1913	Deficiency of oil of pepper-mint in spirit of pepper-mint.	Plead guilty; paid fine of \$10 and costs.
Brunswick. . . . .	5736	H. D. Barnett. . . . .	Dec. 19, 1913	Deficiency of iodine in tincture of iodine.	Plead guilty; paid fine of \$10 and costs.

## LIST OF PROSECUTIONS BROUGHT UNDER THE FOOD AND DRUGS LAW OF MARYLAND DURING 1914—Continued.

<i>City, Town or County.</i>	<i>Laboratory No.</i>	<i>Name of Defendant.</i>	<i>Date Sample Was Purchased.</i>	<i>Why Prosecuted.</i>	<i>Final Disposition of Case.</i>
Denton. . . . .	5789	Denton Drug Co. Dec.	17, 1913	Deficiency of iodine in tinc- Plead guilty; paid fine of \$1 and costs.	
Ridgely. . . . .	5797	J. D. Davis. . . . . Dec.	18, 1913	Deficiency of camphor in Found guilty; paid fine of \$1 and costs.	
Annapolis. . . . .	5837	West End Phar.. Dec.	22, 1913	Deficiency of oil of pepper- Plead guilty; paid fine of \$10 mint in spirit of pepper- and costs.	
Sparrow's Point..	5864	Sparrow's Pt. Dec.	29, 1913	Deficiency of oil of pepper- Plead guilty; paid fine of \$5 mint in spirit of pepper- and costs.	
Highlandtown. . . .	5865	Jas. L. Truax. . . . Dec.	30, 1913	Deficiency of iodine in tinc- Plead guilty; paid fine of \$10 and costs.	
Highlandtown. . . .	5866	Jas. L. Truax. . . . Dec.	30, 1913	Deficiency of oil of pepper- Plead guilty; paid fine of \$5 mint in spirit of pepper- and costs.	
Cumberland. . . . .	6060	J. K. Ford. . . . . Jan.	14, 1914	Deficiency of camphor in Plead guilty; paid fine of \$10 spirit of camphor. and costs.	
Mt. Airy . . . . .	6074	Rudy & Routzahn Jan.	15, 1914	Deficiency of oil of pepper- Plead guilty; paid fine of \$5 mint in spirit of pepper- and costs.	
Mt. Airy . . . . .	6076	Rudy & Routzahn Jan.	15, 1914	Deficiency of iodine in tinc- Plead guilty; paid fine of \$5 and costs.	
Salisbury. . . . .	6091	John M. Toulson Jan.	14, 1914	Deficiency of oil of pepper- Dismissed because of Insuffi- mint in spirit of pepper- cient evidence.	
Salisbury. . . . .	6093	John M. Toulson Jan.	14, 1914	Deficiency of iodine in tinc- Pending.	
Baltimore. . . . .	6169	J. Mercer Heard Jan.	21, 1914	Deficiency of mercury in mer- Dismissed by grand jury. curial ointment.	

## LIST OF PROSECUTIONS BROUGHT UNDER THE FOOD AND DRUGS LAW OF MARYLAND DURING 1914—Continued.

<i>City, Town or County.</i>	<i>Laboratory No.</i>	<i>Name of Defendant.</i>	<i>Date Sample Was Purchased.</i>	<i>Why Prosecuted.</i>	<i>Final Disposition of Case.</i>
Baltimore. . . . .	6323	D. Alex. Kammer Feb.	16, 1914	Deficiency of oil of pepper-Plead guilty; paid fine of \$25 mint in spirit of pepper- and costs.	
Baltimore. . . . .	6337	W. H. Warnefeld Feb.	10, 1914	Deficiency of oil of pepper-Plead guilty; paid fine of \$25 mint in spirit of pepper- and costs.	
Baltimore. . . . .	6338	W. H. Warnefeld Feb.	10, 1914	Deficiency of iodine in the- Plead guilty; paid fine of \$25 ture of iodine. and costs.	
Baltimore. . . . .	6364	Wm. A. Otto. . . . . Feb.	12, 1914	Deficiency of oil of pepper-Plead guilty; paid fine of \$25 mint in spirit of pepper- and costs.	
Centreville. . . . .	6731	S. B. Smith. . . . . Mch.	12, 1914	Vinegar, misbranded as cider Case dismissed on payment of costs.	
Centreville. . . . .	6769	Mrs. Harry Dell. Mch.	11, 1914	Presence of cotton seed oil Case dismissed on payment of costs.	
Baltimore. . . . .	6800	J. Fred Mahle. . . Mch.	24, 1914	Presence of cotton seed oil Plead guilty; paid fine of \$10 and costs.	
Baltimore. . . . .	6801	J. F. Kraus. . . . . Mch.	24, 1914	Presence of cotton seed oil Dismissed by grand jury.	
Baltimore. . . . .	6814	Wm. A. Brice. . . . Mch.	27, 1914	Presence of cotton seed oil Dismissed by grand jury.	
Baltimore. . . . .	6816	E. F. Burke. . . . . Mch.	27, 1914	Presence of cotton seed oil Dismissed by grand jury.	
Federalburg. . . . .	6827	T. O. Jefferson. . . Apr.	15, 1914	Deficiency of iodine in the- Plead guilty; paid fine of \$1 ture of iodine. and costs.	
Federalburg. . . . .	6830	F. N. Wright. . . . Apr.	15, 1914	Deficiency of iodine in the- Plead guilty; paid fine of \$1 ture of iodine. and costs.	
Cambridge. . . . .	6869	Oscar C. Moore. . . Apr.	14, 1914	Vinegar misbranded; sold as Pending. cider vinegar.	

## LIST OF PROSECUTIONS BROUGHT UNDER THE FOOD AND DRUGS LAW OF MARYLAND DURING 1914—Continued.

<i>City, Town or County.</i>	<i>Laboratory No.</i>	<i>Name of Defendant.</i>	<i>Date Sample Was Purchased.</i>	<i>Why Prosecuted.</i>	<i>Final Disposition of Case.</i>
Salisbury. . . . .	6916	E. T. Jones & Co. Apr.	14, 1914	Presence of cotton seed oil in lard.	Convicted; paid fine of \$5 and costs.
Crisfield. . . . .	6926	R. J. Adams.... Apr.	16, 1914	Presence of cotton seed oil in lard.	Pending.
Baltimore. . . . .	6958	E. C. Livingston Apr. Co.	24, 1914	Deficiency of iodine in tincture of iodine.	Convicted; paid fine of \$50 and costs.
Baltimore. . . . .	6965	W. P. Barnett... Apr.	24, 1914	Deficiency of oil of pepper-mint in spirit of pepper-mint.	Plead guilty; paid fine of \$25 and costs.
Cumberland. . . . .	7023	D. S. Deffenbaugh May	5, 1914	Vinegar misbranded; sold as cider vinegar.	Convicted; paid fine of \$10 and costs.
Hancock. . . . .	7038	Mason & Gillice.. May	19, 1914	Deficiency of acetic acid in vinegar.	Plead guilty; paid fine of \$5 and costs.
Kensington. . . . .	7112	H. A. Trowbridge May	19, 1914	Deficiency of iodine in tincture of iodine.	Convicted; paid fine of \$10 and costs.
Derwood. . . . .	7116	T. M. Hoyle..... May	19, 1914	Presence of cotton seed oil in lard.	Convicted; paid fine of \$5 and costs.
Westminster. . . . .	7130	Chas. W. Moore. May	22, 1914	Deficiency of camphor spirit of camphor.	In Plead guilty; paid fine of \$5 and costs.
Henderson. . . . .	7168	W. F. Clark..... May	28, 1914	Vinegar misbranded; sold as cider vinegar.	Plead guilty; paid fine of \$1 and costs.
Hillsboro. . . . .	7173	Clark & Bishop.. May	28, 1914	Vinegar misbranded; sold as cider vinegar.	Plead guilty; paid fine of \$1 and costs.
Millington. . . . .	7176	E. A. Wilson.... May	26, 1914	Presence of cotton seed oil in lard.	Pending.



During the year 1914, 211 hearings were held in connection with alleged violations of the law, as follows: 115 in April, 17 in May, 38 in September, and 41 in October.

Besides Baltimore City, 428 towns were visited by the inspectors, resulting in 8,480 inspections of places where food products are manufactured, stored or sold, more especially with a view of correcting any unsanitary conditions found. This does not include the inspections made by the cannery and dairy inspectors, which are separately reported upon elsewhere.

#### LIST OF INSPECTIONS MADE BY THE INSPECTORS IN 1914.

Butter Inspections. . . . .	1,167
General Stores. . . . .	6,096
Depots. . . . .	27
Terminal Warehouses. . . . .	28
Special Inspections. . . . .	10
Wagon Yard. . . . .	1
Produce Yards. . . . .	4
Water Inspections. . . . .	1
Oyster Inspections. . . . .	337
Fruit warehouses. . . . .	2
Wharves. . . . .	430
Markets. . . . .	190
Fish Market. . . . .	1
Crab Meat Factory. . . . .	1
Crab Meat Store. . . . .	1
Canning Houses. . . . .	20
Hotels. . . . .	33
Ice Cream Plants and Bakeries. . . . .	7
Pie Bakeries. . . . .	2
Soda Fountain Inspections. . . . .	121
Y. W. C. A. Inspection. . . . .	1
Total. . . . .	8,480

#### TOWNS VISITED BY FOOD AND DRUG INSPECTORS DURING THE YEAR 1914.

Annapolis (7), Aberdeen (3), Airey's, Arlington (2), Adamstown (2), Academy Junction, Ashland, Berlin (3), Belair (3), Bladensburg (2), Boonsboro, Brooklyn (2), Brunswick (2), Buckeystown (2), Braddock Heights, Bryantown, Bushwood, Budd Creek, Bel-Alton, Black, Bowie, Butler, Buck's Lodge, Barnesville, Boyds, Burdette, Brookville, Burtonville, Brandywine, Bishop's Head, Bozman, Beltsville (5), Branchville (1), Berwyn (3), Barton, Beaver Creek, Bruceville, Barclay, Battlesboro, Cumberland (7), Crisfield (4), Catonsville (5), Charlestown, Chestertown (3), Church Hill (3), Centreville (3), Claiborne (1), Cambridge (3), Curtis Bay (1), Charlotte Hall, California, Chaptico, Cockeysville, Clarksburg, Camp Springs, Cedarville, Croon, Chance, Crapo, Chewsville, Cavetown, Clear Spring, Creagertown, Crumpton, Corner, Chesterville, Denton (5), Doub's Station (1), Darnestown, Dawsonville, Dickerson, Damascus, Deal's Island, Derwood, Dentnor, Ellicott City (5), Elkton (5), Easton (3), East New Market, Eastport, Emmittsburg (3), Englar's Mill, Etchison, Ednor, Eckhart, Eadesville, Elk-

ridge, Frostburg (3), Forest Park (2), Federalsburg (1), Fullerton, Fairfield, Fallston, Frederick (5), Faulkner, Forrestville, Fairbank, Funkstown, Gaithersburg (4), Govans (1), Glyndon (3), Gardenville (1), Great Mills, Glencoe, Glen, Germantown, Golden Hill, Graceham (1), Goldsboro, Greensboro, Galena, Hancock (2), Hebron (1), Hagerstown (7), Hyattsville (7), Havre de Grace (4), Hurlock (2), Hamilton (2), Hombergsville, Hughesville, Hollywood, Hermanville, Halethorpe, Hereford, Hyattstown, Habnab, Hillsboro, Henderson, Hope, Indian Head, Irvington, Ingleside, Ijamsville, Jacksonville, Jefferson, Kensington (4), Keedysville (1), Keyman, Lonaconing, Laurel (6), Linkwood, Lauraville, Lime Kiln (1), Lewistown (1), La Plata, Laurel Grove, Loveville, Leonardtown, Lutherville, Lawtonville, Lakesville, Loys (1), Legore (1), Leitersburg, Ladiesburg, Linwood, Locust Grove, Mt. Airy (1), Marion Station, Mt. Washington, Middletown, Marydel, Meyersville, Monrovia, Mt. Pleasant, Mardella Springs, Medford, Marshall Hall, Mechanicsville, Morganza, Milestown, Maddox, Mt. Carmel, Marble Hill, Monkton, McKinstry, Meadows, McDaniel, Muirkirk (2), Massey (2), Mt. Winans, Morrell Park, Mt. Savage, Midland, Mapleville, Middleburg, Millington, McGinness Corner, North East (2), New Windsor (3), Newport, North Keys, New Midway, New Market, Oakland (1), Ocean City, Owings Mills (1), Overlea, Oxford, Odenton, Olney, Preston (1), Princess Anne (4), Pocomoke City (3), Pikesville (3), Perryville (4), Perryman (1), Port Deposit (2), Parkville, Pomfret, Pomonkey, Pisgah, Port Tobacco, Pearson, Park Hall, Patuxent, Parkton, Phoenix, Potomac, Poolesville, Purdum, Pittsville, Parsonsville, Pondtown, Pearl, Plane No. 4, Queenstown (2), Queen Anne, Rockville (5), Reisterstown (3), Royal Oak, Roland Park, Riverdale (4), Raspeburg (1), Riderwood, Rocky Ridge (1), Ridgely, Ruthberg, Ridgeville, Sykesville, Salisbury (5), Snow Hill (2), St. Michael's, Sparrow's Point, St. Helena, St. Ingoes, Shawville, Sheppard, Shawan, Sparks, Sellman, Sunshine, Sandy Spring, Spencerville, Silver Spring, Surrattville, Sherwood, Sharpsburg, Smithsburg, Still Pond, Towson (4), Turner's Station, Thurmont (3), Timonium, Texas, Townsend, Toddville, Tilghman Island, Tilghmantown, Taneytown, Templeville, Union Bridge (3), Unity, Upper Marlsboro, Uniontown, Vienna (1), Westernport, Westminster (7), Williamsburg, Wagner's Point, Walkersville, Woodshoro, Waldorf, White Plains, Woodwardville, White Hall, Wiseburg, Washington Grove, Woodside, Worton, Wingate, Whitman, Westport, Wagner's X-Roads, Williamsport.

The following lists will show the character and quantity of food products condemned and destroyed by the Inspectors during the past year, and also the number of samples of food products and drugs examined and not passed after analysis:

CONDEMNATIONS OF FOOD PRODUCTS FROM JANUARY 1, 1914,  
TO JANUARY 1, 1915.

Apples. . . . .	7 lbs.
Beef. . . . .	120 lbs.
Bananas. . . . .	5 bunches.
Beans. . . . .	660 lbs.
Cakes. . . . .	22 lbs.
Crabs. . . . .	2 barrels.
Condiment. . . . .	21 bottles.
Currants. . . . .	839 lbs.
Curd. . . . .	370 lbs.
Cabbage. . . . .	117 lbs.

Catsup. . . . .	300 gallons.
Chow-chow. . . . .	42 jars.
Cherries. . . . .	100 lbs.
Cheese. . . . .	48 lbs.
Chickens. . . . .	306 lbs.
Dates. . . . .	27 lbs.
Fish. . . . .	1,028 lbs.
Krout. . . . .	15,500 lbs.
Livers. . . . .	6
Lard. . . . .	45 lbs.
Milk. . . . .	48 cans.
Mustard. . . . .	2 jars.
Mince meat. . . . .	12 lbs.
Onions. . . . .	7,500 lbs.
Oysters. . . . .	4 gallons.
Peppermint. . . . .	$\frac{1}{2}$ pint.
Peas. . . . .	7 cans.
Potatoes. . . . .	8,976 lbs.
Pickles. . . . .	14 bottles.
Pork. . . . .	98 lbs.
Prunes. . . . .	666 lbs.
Rabbits. . . . .	53 lbs.
Sausage. . . . .	9 $\frac{1}{2}$ lbs.
Turkey. . . . .	10 lbs.
Tomatoes. . . . .	3,450 lbs.
Tomatoes. . . . .	1,150 cans.
Vegetables. . . . .	3,450 cans.
Watermelons. . . . .	40

## LIST OF FOODS AND DRUGS NOT PASSED DURING 1914.

<i>Representation.</i>	<i>Cause for Rejection.</i>
5 samples Bay Rum. . . . .	Contained methyl alcohol and evidently made with denatured alcohol.
8 samples Butter. . . . .	Misbranded; process butter.
2 samples Camphorated Oil. . . . .	Deficient in camphor.
12 samples Catsup. . . . .	Partial decomposition.
4 samples Canned Tomatoes. . . . .	Deficient in solids.
2 samples Extract of Vanilla. . . . .	Improperly labeled.
3 samples Extract of Lemon. . . . .	Improperly labeled.
3 samples Ice Cream. . . . .	Deficient in butter fat.
42 samples of Lard. . . . .	Compounds containing cotton seed oil; insufficiently or improperly labeled.
15 samples Mercurial Ointment. . . . .	Deficient in mercury; improperly labeled.
1 sample Condensed Milk. . . . .	Deficient in butter fat.
2 samples Evaporated Milk. . . . .	Deficient in butter fat.
2 samples Milk. . . . .	Deficient in butter fat.
1 sample Parsley Gin. . . . .	Alcohol not declared on the label.
16 samples Spirit of Camphor. . . . .	Deficient in camphor.
7 samples Spirit of Camphor. . . . .	Alcohol not declared.
4 samples Spirit of Camphor. . . . .	Excess of camphor.
12 samples Spirit of Peppermint. . . . .	Alcohol not declared.
33 samples Spirit of Peppermint. . . . .	Deficient in oil of peppermint.
36 samples Tincture of Iodine. . . . .	Deficient in iodine.
21 samples Tincture of Iodine. . . . .	Contain excess of iodine.
13 samples of Vinegar. . . . .	Misbranded; not cider vinegar
35 samples of Vinegar. . . . .	Deficient in acetic acid.

Since the attachment of the Board's Meat Inspector to this Department, regular monthly reports have been made to the Board, and the total number of inspections and condemnations are given below:

#### REPORT OF MEAT INSPECTOR FOR THE YEAR 1914.

Inspected at slaughter houses and abattoirs—Cattle, 59,679; Calves, 25,121; Sheep, 140,856; Hogs, 124,427.

Visited—Slaughter Houses, 1,602; Abattoirs, 18; Stores, 26.

Condemned:—

Steers. . . . .	3
Calves, under age and weight. . . . .	21
Calf, sick of pneumonia. . . . .	1
Livers. . . . .	39
Cows, cancer and tuberculosis. . . . .	3
Cows, bruised and unfit for food. . . . .	11
Sheep. . . . .	48
Sausage. . . . .lbs.	100
Beef Tongues. . . . .	25
Beef. . . . .lbs.	4,644
Veal and Mutton. . . . .lbs.	250
Corned Beef. . . . .lbs.	750
Hogs. . . . .	43
Rabbits. . . . .	150
Partridges. . . . .	92

CHARLES N. MITTEN,  
*Inspector.*

After July 1, 1914, the date on which the new Sanitary Inspection Law became effective, efforts were at once made to improve the sanitary condition in the canneries and dairies of the State, and I beg to call your attention to the subjoined reports of the two inspectors, Dr. W. B. Billingsley and Mr. A. K. Beasley, as to the work done along this line during the last six months of the year.

Considering the magnitude of the work necessary to carry out the full requirements of the Sanitary Inspection Law, bearing upon two such important interests as the canning and dairy industries in this State, it would seem very desirable that an effort should be made at the coming session of the Legislature to secure an appropriation of, say, \$10,000 or \$15,000, so that inspectors may be kept constantly at work in the different counties of the State.

Respectfully submitted,

CHAS. CASPARI, JR.,  
*State Food and Drug Commissioner.*

BALTIMORE, February 1, 1915.

## REPORT OF THE VETERINARIAN AND DAIRY INSPECTOR.

*To the State Board of Health of Maryland.*

GENTLEMEN:—

I herewith beg to submit a summary of my activities since my appointment, June 1, 1914.

The first four weeks were spent in the State Bacteriological Laboratory for the purpose of instruction and work under the guidance of Dr. W. R. Stokes. During the month of July I assisted in the sanitary survey of Dorchester County under the supervision of Dr. John S. Fulton, to whom, as well as the district health officers, I am greatly indebted for valuable information with reference to the manner of conducting sanitary survey of premises, especially from the standpoint of typhoid propagation. Since then I have inspected 261 dairies and dairy farms, as follows:

Laurel, 4; Bethesda, 10; Cambridge, 30; Annapolis, 26; Westminster, 30; Belair, 4; Hagerstown, 157. Of these, 48 have been reinspected. Have also inspected 39 slaughter houses as follows:

New Windsor, 2; Westminster, 3; Belair, 2; Hagerstown, 10; Annapolis, 2; Eastport, 2; Cambridge, 1; Laurel, 2; Aberdeen, 2; Havre de Grace, 3; Perryville, 2; Port Deposit, 1; North East, 2; Elkton, 1; Perryman, 1; Hyattsville, 1; Ellicott City, 1; Oella, 1. Of these, besides 26 reinspections, 5 were made the subject of special inspection.

A few examples may serve to show the results following the above inspection:

The premises of B. F. D., supplying milk to Hagerstown, were found in the following bad condition: The manure had not been removed from the stable for several days, ceiling consisted of a few rails covered with hay, spider webs on walls and ceiling; stable not whitewashed; such manure as had been removed had been thrown right out in front of the stable door; no dairy house; bottling of milk was done on a bench on an open porch.

Upon reinspection of the same premises, the manure had all been removed from the stables, carried out to a distance of 35

feet and surrounded by a rail fence. Ceiling had been covered with tar paper; all spider webs had been swept down and the entire stable had been whitewashed; a fly-proof dairy house had been completed, with the exception of putting in windows and shelves.

At another dairy, that of W. B. S., Bethesda, Md., selling milk to Glencoe Heights, I found the following on first inspection:

Stable wet and dirty; ceiling low and consisting of rails covered with fodder and chaff; could not walk in stable without knocking down dirt; neither walls nor other parts of stable whitewashed, but covered with spider webs and dirt; manure right outside stable door; ground so wet and filthy that one could hardly wade through; used room in house for bottling, which was full of flies and a sort of storeroom for junk; no privy on the premises.

Upon reinspection, found the stable all levelled up with clay and well bedded and dry; ceiling covered with canvas; walls and other parts clean and whitewashed; logs had been put for some distance around the outside of the stable and filled up with clay so that drainage would be away from the immediate vicinity; manure pit built some distance from stable and surrounded by a rail fence; junk removed from bottling room and practically no flies; a sanitary privy had also been built.

The great majority of dairymen know the methods of producing clean, wholesome milk, but are careless except when they know the Health Officer is in the neighborhood; this shows the necessity for constant supervision, which of course cannot be given unless more men are available.

One man by the name of Stevens, supplying Annapolis daily with 18 gallons of milk, did all his bottling in a horse stable, and became very indignant when I told him that he would have to have a fly-proof dairy house.

I recall a case at Hagerstown where the farmer became very angry when I destroyed a can of milk full of flies, ants, leaves and spanish needles which he had brought to the Dry Milk Plant of that city.

Many dairymen have an idea that no matter how high the pollution of the milk, it can be rendered good by simple straining. The majority have fairly good equipment, but their meth-

ods are very bad. The principal faults I found consisted in milking diseased animals, also dirty udders and dirty stables, and storing of the milk in unclean places, without proper cooling.

Of the slaughter houses visited, I found 95% in a very unsanitary condition. Floors, walls and ceilings were dirty; offal was on the ground, both inside and outside the house, some of the men depending on dogs to eat the offal; also dirty utensils and surroundings.

Large cities and incorporated towns should pass laws making it compulsory for butchers to slaughter only under the supervision of graduate veterinarians. This seems to be the only way to prevent diseased animals from being utilized for food purposes.

As a rule, I found the majority of the persons whom I visited approve of inspection, very few being hostile. Nearly all of them have made the changes suggested without the necessity of giving them a five days' notice in writing, and those having received the notices have complied with the requirements.

Respectfully,

W. B. BILLINGSLEY, D. V. S.

### REPORT OF CANNERY INSPECTOR.

*To the State Board of Health:*

In making inspections this year, I have visited and left copies of the Law with 498 factories since July 28th, all outside the City of Baltimore and vicinity, and have yet to visit 15 more, to cover the entire State. Of this number, 476 operated this year and 37 remained closed.

I explained in detail what was required to operate the factories in a sanitary way and what improvements they were required to make, viz: to have concrete or tongue-and-groove floors under all machinery that can be properly drained; to provide stationary washstands, so employees can wash their hands in flowing water; to make private sanitary toilets, and how to make them; to provide private living quarters; to remove ensilage daily, and, in tomato canneries, to make con-

crete boxes for skins; or concrete base under elevated skin box, and concrete platform to load wagon on, properly drained; and when they load skin in wagons to make a concrete platform for it to stand on, with drain; to make proper drainage for all waste liquids; the help to wash their hands on entering factory and wash their hands when returning to their work during business hours; female help to wear washable waterproof aprons and washable caps over their hair; no spitting or smoking in factory; no clothes baskets or hats or clothing of any kind to be hung about where goods are being manufactured. Occupants of living quarters to keep them clean and sanitary; to wear rubber cots over wounds, securely tied to their wrists, and to keep their clothing and bodies as clean as the nature of their employment will permit.

When factories have been in operation I have had them closed down and explained the law to the workers, and tried to make them understand this—that dirty people cannot work in canning factories in the State of Maryland.

The following conditions were found:

#### FLOORS.

Concrete. . . . .	137
Tongue-and-groove. . . . .	88
Plain floor. . . . .	55
Part tongue-and-groove. . . . .	33
Part concrete. . . . .	23
Concrete and tongue-and-groove. . . . .	20
Over water. . . . .	16
Double floor. . . . .	14
Part double. . . . .	4
Part tongue-and-groove and concrete. . . . .	3
Cement and plain. . . . .	3
Tongue-and-groove and plain. . . . .	2
No floor. . . . .	2
Concrete and open. . . . .	1
Brick. . . . .	1
Concrete and water. . . . .	1
Part tongue-and-groove and water. . . . .	1
Part water, part open. . . . .	1
Caulked. . . . .	1
Plain and tarred. . . . .	1

#### WASHING FACILITIES.

Stationary, washstands . . . . .	132
Ordinary washstands. . . . .	229
No provision. . . . .	43



## TOILETS.

Separate toilets. ....	313
Single toilets. ....	6
No toilets. ....	57
Sanitary toilets. ....	22

## LIVING QUARTERS.

Private living quarters. ....	174
Living quarters, not private. ....	24
Local help. ....	186

## DISPOSAL OF TOMATO SKINS.

Dumps skins in wagon. ....	79
Dumps skins in river. ....	44
Dumps skins on the ground in pile. ....	39
Cement skin box. ....	25
Dumps skins in wagon, concrete base. ....	20
Wood skin box over concrete base and concrete platform for wagon to load. ....	15
Concrete base under wood skin box. ....	9
Dumps skins in box alongside of factory. ....	12
Hauls skins away in scow. ....	7
Iron skin box. ....	4
Cement skin box with platform for wagon. ....	4
Hauls skins in wagon. ....	3
Hauls skins in barrels. ....	2
Dumps skins in bay. ....	2
Elevated skin box over cement base. ....	1
Pumps skins to tidewater. ....	1

## DRAINAGE.

Drains to creek. ....	97
Drains to river. ....	82
Drains to ditch. ....	66
No drainage. ....	44
Drains to field. ....	39
Drains to railroad ditch. ....	15
Drains to woods. ....	14
Drains to pits. ....	12
Drains to sewer. ....	12
Drains to bay. ....	12
Drains to tidewater. ....	5

## MISCELLANEOUS.

Ensilage piles around corn factories. ....	11
Skin piles around factories, not removed. ....	36
Husking sheds. ....	18
Without husking sheds. ....	11
Syrup rooms to be screened. ....	15
Factories closed. ....	32
Dairies closed. ....	1
Disinfectant plants built. ....	5

**FACTORIES CLOSED ON ACCOUNT OF TOMATO SKINS AND  
FILTH UNTIL THEY CLEANED UP.**

*Post Office.*

William Covey.....	Trappe, Md.
Wm. F. Applegarth.....	Golden Hill, Md.
A. W. Murphy & Co.....	Secretary, Md.
A. J. Jones & Son.....	Quantico, Md.
G. M. Messick.....	Royal Oak, Md.
Phillips Waller & Co.....	Green Hill, Md.
R. J. Chatham.....	Upper Ferry, Md.
F. W. Dolbey.....	White Haven, Md.
Green & Redding.....	Redding's Ferry, Md.
Miller & Ritzel.....	Westover, Md.
Wm. P. Oxenham & Bro.....	Kirkman, Md.
Edward Hoffman.....	Griffen, Md.
Mardel Canning Co.....	Hayden, Md.
Carroll & Warner.....	McDaniel, Md.
Henry C. Whiteford.....	Fredericktown, Md.
M. M. Carr.....	Worton, Md.
Thomas Jaminson.....	Robinson, Md.
A. Smith & Co.....	Aberdeen, Md.
George W. Elsmar.....	Belcamp, Md.
C. C. Spencer.....	Fountain Green, Md.
George Wildason.....	Bel Air, Md.
A. C. Magness.....	Wilna, Md.
W. S. Crossmore.....	Upper Falls, Balto. Co., Md.
Theo. Wildason.....	Bel Air, Md.
A. Scott Robinson.....	Fallston, Md.
Geo. W. Standiford.....	Reckord, Md.
J. F. Forward.....	Forest Hill, Md.
L. T. Grier.....	Chestnut Hill, Md.
E. L. Grier.....	Cherry Hill, Md.
Wm. Burkins.....	Jarrettsville, Md.
E. B. Arnold.....	Street, Md.
R. E. Grafton.....	Forest Hill, Md.

There are 12 factories in Harford County packing shoepeg corn; two have husking sheds; the balance husk the corn on the ground and carry it to cutting tables by baskets. I should recommend they be required to build sheds.

The conditions at Cambridge were particularly bad. The five large tomato factories drained their juice to the basin; it killed all the fish and crabs and turned everything black it came in contact with, even to the houses adjacent to the basin.

They all put in disinfectant plants, which greatly improved conditions and will try and further remedy the evil next summer.

The canneries at Preston have no drainage, which latter runs clear into the town along the town gutters; during the packing season the smell is a nuisance and very obnoxious. A

town sewer is being put in and the canners will connect with it next year.

J. R. Travers' tomato factory, Nanticoke, was the only one I found that wholly complied with the law.

A great number of tomato factories in Harford County packed and capped by hand—that is to say, they have a brick fireplace to scald in and a brick fireplace to process in, with no means of cleansing water from the time they start to pack to the time they close. The water gets filthy. They fill by hand, wash off the tops of the cans with a scrub brush from a bucket of water, which gets dirty; they put the acid all over the tops of the cans with a paint brush, some going into the cans, some going on the floor and some on the workers. I would recommend that they be compelled to put in modern machinery or close. Found one packing in a barn where horses were kept.

The most serious fault to correct is the matter of drainage, the factories being situated often where it is almost impossible to obtain drainage, except at an expense which would not be warranted to the smaller packer.

With very few exceptions, I found all the packers willing to comply with the laws and requirements, and to co-operate with the Board in having all packers obey the law and raise the canning industry of Maryland to a high standard.

Respectfully submitted,

A. K. BEASLEY,

BALTIMORE, Feb. 1, 1915.

*Inspector.*

# Report of the Bureau of Sanitary Engineering 1914

ROBERT B. MORSE, Chief.

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## GENERAL STATEMENT.

The work of the Bureau of Sanitary Engineering was carried on during the first five months of 1914 under Section 21E, Chapter 560 of the Acts of 1910, and during the remainder of the year under the new water supply and sewerage law, Chapter 810 of the Acts of 1914. The latter act was prepared towards the close of 1913, as a result of the experience gained in the year and a half the Bureau had been in operation, and submitted to the Legislature of 1914, which enacted it into law. This act broadens the power and scope of duties of the State Board of Health in so far as they concern questions of water supply, ice supply, sewerage and refuse disposal, and it carries with it an appropriation which permitted a material enlargement of the engineering force.

The force was organized as follows: R. B. Morse, chief engineer; H. R. Hall, principal assistant engineer; F. W. Caspari, M. Tolman and R. T. Davis (appointed July 1st), resident engineers; C. E. Fox (appointed June 15) and F. P. Gilbert (appointed June 15), assistant engineers; C. R. Cox, engineering assistant; D. R. Makibben and C. M. Fankhanel (appointed November 10), draftsmen; G. L. Hall (appointed December 1), special assistant engineer in charge of the preparation of plans for water supply and sewage disposal improvements at the Maryland House of Correction; Miss H. A. Walker, Miss F. E. Hildebrandt and Miss H. P. Delaney (appointed September 25), stenographers; and six additional assistants, mostly employed for short periods on Montgomery and Prince George's Counties main drainage work.

The routine examinations of water supply and sewerage systems were continued during the year and many re-examinations were made of systems which had already been investi-

gated previously. A number of studies commenced in 1913 were carried over into 1914, and several reports were submitted to towns, in order that they might apply to the Legislature for the right to issue improvement bonds. The most important study was for main drainage for those sections of Maryland adjacent to the District of Columbia. Preliminary plans were prepared and a complete and detailed report was made to the Sewerage Commission of Montgomery and Prince George's Counties, together with the draft of a bill embodying the recommendations. This report has been printed in a separate pamphlet. Other reports were made in connection with proposed improvements at Frostburg, Cambridge and Crisfield.

During the year a great deal of time and effort was spent on the investigation of minor local nuisances which could have been well attended to by local health officers. This is a matter which has been discussed in previous reports; it has always taken a great deal of valuable time from this Department's work.

On May 23, this office took over the matter of reporting upon private water supplies, receiving the results of analyses directly from the chemical and bacteriological laboratories and making the interpretations, as it has always done in the case of public and semi-public supplies. The work in connection with private water supplies has consumed a considerable amount of time, much of which appears to have been ill spent, for the recommendations of the Department are not often carried out. Many persons pay little attention to the interpretations, and it is felt that not a few samples are sent in out of mere curiosity.

With the passage of Chapter 810 and the making available of an increased appropriation for this office, the matter of dividing the State into engineering districts, as discussed in the 1913 report, was taken up and resident engineers appointed for the Northern, Eastern and Western Districts. The Northern District office is located in the main office at Baltimore, the Eastern District office is at Easton, and the Western District office is at Hagerstown. The establishment of these offices has made it possible to keep in much closer touch with the work throughout the State.

It is believed that the new water supply and sewerage law is most complete and places Maryland in advance of other

states as far as legislation of this character is concerned. The more important sections in the law provide that the State Board of Health shall advise municipalities and others concerning water supply, sewerage, and refuse and manufacturing wastes disposal; plans of all existing water supply and sewerage systems shall be submitted to it for record; it may compel the proper operation of water supply, sewerage and refuse disposal systems, employing persons for this purpose, if necessary; it may require alterations in or extensions to existing systems of water supply, sewerage and refuse disposal, and order the installation of systems of water supply, sewerage and refuse disposal; no systems shall be built, and no extensions to nor alterations in any existing systems shall be made, without a written permit from the State Board of Health; municipalities must raise the necessary money, when ordered to build systems, and if they so desire they may issue for this purpose, without special legislative procedure and without a referendum, bonds or notes up to two per cent. of their taxable basis, upon approval of the Governor and Attorney General; the Board shall have complete control over the disposal of industrial wastes, ice and bottled water supplies; and, lastly, it may compel the abandonment of privies, cesspools or private wells and the connection of properties to public water supply or sewerage systems. Violations of orders of the State Board of Health carry with them penalties in the form of fines. Resort may be had to the courts by persons affected by such orders, in which case the State Board of Health must prove the reasonableness of its position.

Under the sections of the above act much work has already been done in the improvement of water supply and sewerage conditions, but the eight months during which the law has been effective are hardly sufficient to show the full effect of the good that can be accomplished by it.

#### PLANS OF WATER SUPPLY AND SEWERAGE SYSTEMS RECEIVED.

The passage of the new law requiring the submission of plans for all water supply and sewerage work greatly increased the number received, and during the year 437 plans were recorded. Water supply and sewerage plans were submitted from the following places:

## WATER SUPPLY SYSTEMS—

*Existing*—Burkittsville, Cambridge, College Park (Maryland Agricultural College), Cumberland, Delmar, Easton, Evergreen Lawn, Frederick, Greensboro, Guilford, Hagerstown, Havre de Grace (filtration plant), Melvale Heights, Rising Sun, Rockville, Roland Park, Ruxton, Severna Park, Westernport.

*Proposed*—Avalon (Baltimore County Water Company, filtration plant extension), Brooklyn (extensions), Cambridge (extensions), Cambridge (Eastern Shore State Hospital), Chestertown (extensions), Crisfield (extensions), Curtis Bay (extensions), Denton (extensions), East New Market, Frostburg (enlargement of supply), Hancock, Kensington, Laurel (extensions and filtration plant), Mt. Rainier, Mt. Savage, Perryville (improvements and new supply), Pocomoke City (extensions), Port Deposit (new well), Princess Anne (extensions), Salisbury (extensions), Takoma Park (increased supply), Towson (Maryland State Normal School), Westernport (extensions and improvements), Westminster (extensions).

## SEWERAGE SYSTEMS—

*Existing*—Ardmore Park (disposal plant), Bridewell (Maryland House of Correction), Catonsville (Maryland State Hospital for the Insane), College Park (Maryland Agricultural College), Cumberland, Easton, Forest Glen (National Park Seminary), Frederick (College Park), Guilford, Lauraville (United Railways and Electric Company's car house), Mt. Washington, Pocomoke City, Westernport.

*Proposed*—Arlington (extensions), Brunswick (West End School), Cambridge (Eastern Shore State Hospital), Chevy Chase (experimental plant, United States Public Health Service), College Park (Maryland Agricultural College, extensions and disposal plant), Crisfield (Chesapeake Avenue Ditch), Cumberland, Easton (extensions and disposal plants), Easton (residential plant), Forest Glen, Frederick (extensions), Frederick (Hood College, system and disposal plant), Frostburg (extensions), Guilford (extensions), Hancock, Kensington (system and disposal plant), Mt. Rainier, Preston, Rockville (system and disposal plant), Salisbury (extensions), Silver Spring Park, St. Michael's (residential plant), Sykesville (Springfield State Hospital, extensions), Takoma Park (extensions), Towson (extensions), Towson (Maryland State Normal School), Westernport (extensions).

## PLANS PREPARED IN CONNECTION WITH INVESTIGATIONS.

During the year, in connection with its various studies and investigations, 38 complete plans and 183 record sketches were prepared in this office. The principal plans completed are as follows:

## WATER SUPPLY PLANS—

Bridewell (Maryland House of Correction)—Existing pumping station and collecting well.

Frostburg—Enlargement of water supply.

Hurlock—Preliminary layout of proposed water system.

Salisbury—Water main extension required before paving street.

**SEWERAGE PLANS—**

Arlington and Vicinity—Area to be sewerer under order of State Board of Health.

Bridewell (Maryland House of Correction)—Existing sewers and drains.

Cambridge—Preliminary layout of sewerage system to relieve pollution of harbor.

Crisfield—Conditions existing at time of typhoid fever outbreak.

Crisfield—Preliminary layout of sewerage system.

Germantown—Layout for sewerage system.

Govans and Vicinity—Area to be sewerer under order of State Board of Health.

Hurlock—Preliminary layout of sewerage system.

Montgomery County—Area to be sewerer under order of State Board of Health.

Sykesville (Springfield State Hospital)—Improvements to sewage disposal plant.

Washington Suburban Sanitary District—Proposed trunk sewers.

Type of Sanitary Privy required by Maryland State Department of Health.

**WATER SUPPLY AND SEWERAGE PLANS—**

Chestertown—Existing water and sewer systems.

Ocean City—Existing water mains, sewers and other sanitary facilities.

**PERMITS ISSUED.**

The provision of the new law requiring that permits be issued for new water supply or sewerage systems or extensions thereto made necessary the issuance of a number of permits for water and sewerage systems and for ice supplies.

Forty water supply permits were issued to various persons or municipalities. The more important ones are as follows:

*Construction of Water Works Systems*—Cambridge (Eastern Shore State Hospital), East New Market, Greensboro, Hancock, Kensington.

*Extension of Distribution Systems*—Baltimore County Water and Electric Company, Brooklyn and Curtis Bay Light and Water Company, Cambridge (Dorchester Water Company), Crisfield, Denton, Easton, Pocomoke City, Salisbury Water Company, Westminster (Consolidated Public Utilities Commission).

*Driving Wells*—Belair (Bel Air Water and Light Company), Chestertown Water Board, Ellicott City Water Company, Port Deposit Water Company, Roland Park Water Company.

*Installation of Disinfecting Apparatus*—Perryville.

Thirty-three sewerage permits were issued. The more important ones are as follows:

*Construction of Sewerage Systems and Disposal Plants*—Rockville, Towson (Maryland State Normal School).



*Construction of Sewerage Systems*—Cambridge (Eastern Shore State Hospital), Forest Glen (Forest Glen Trading Company), Hancock, Kensington, Preston.

*Construction of Disposal Plants*—Catonsville (Maryland State Hospital for the Insane), Govans (Cityco Realty Company).

*Extension of Sewerage Systems*—Chestertown, College Park (Maryland Agricultural College), Cumberland, Easton Utilities Commission, Frostburg, Salisbury, Westernport.

Two permits were issued for the sale of ice, as follows:

R. G. Nicholson, Chestertown; Bethesda Ice and Lumber Company.

Two permits were issued for the sale of bottled water, as follows:

Royal Spring Water Company, Powhatan Spring Water Company.

#### ORDERS ISSUED.

Under the provisions of the new law giving the State Board of Health supervision and control over the maintenance, alteration, extension and construction of water and ice supplies, sewerage systems, trades wastes and refuse disposal in the State, thirty-seven orders were issued during the year to various municipalities, corporations and individuals, the more important of which are as follows:

##### WATER SUPPLY—

Chestertown—To provide a new source of water supply, together with proper storage works.

Chestertown—To raise and expend the sum of \$6,000 for the construction of storage works for water.

Perryville Water Company—To install a temporary disinfecting plant to treat the public water supply.

##### SEWERAGE—

Commissioners of Baltimore County—To install a sewerage system within the Tiffany Run drainage area, Govans.

Commissioners of Baltimore County—To install a sewerage system in Arlington.

Commissioners of Montgomery County—To install a sewerage system in a portion of Montgomery County near the District of Columbia boundary.

Frostburg—To extend present sewerage system to provide an outlet at a point below Grahamtown.

Frostburg—To construct a sewer in Loo Street, between Pine and Water Streets.

## SANITARY PRIVY DESIGN.

Owing to increased activities in the field, there has been a demand for a plan showing the type of privy which would meet the requirements of the State Board of Health, and this Department has prepared a plan for such a privy, with a list of the material necessary, and a description of the manner in which it may be constructed. This has been printed in pamphlet form for distribution, and has received wide circulation. Prior to the publication of this pamphlet there was no definite method prescribed for constructing sanitary privies when the Department ordered or suggested their installation.

## INVESTIGATIONS MADE BY ENGINEERING DIVISION DURING 1914.

COUNTY.	TOWN OR LOCALITY.	NATURE OF INVESTIGATION.		
		Water Supply.	Sewerage.	Miscellaneous.
Allegany.	Borden Shaft.	Proposed public supply.		
Allegany.	Cumberland.	Public supply.		Pollution of Potomac River and tributaries.
Allegany.	Frostburg.	Extension of public supply.	Sewer outlets in Grahamtown.	
Allegany.	Frostburg.		Proposed lateral sewers.	
Allegany.	Lonaconing.	Public supply.		Study for refuse disposal system.
Allegany.	Midland.	Public supply.		
Allegany.	Mt. Savage.	Proposed public supply.		
Allegany.	Westernport.	Public supply.	Sewerage conditions.	Sanitary survey.
Anne Arundel.	Annapolis.	Public supply.		
Anne Arundel.	Annapolis.	Supply of U. S. Naval Academy.		
Anne Arundel.	Arundel Beach.	Private wells.		Sanitary conditions.
Anne Arundel.	Bridewel.	Supply of Maryland House of Correction.	Sewerage of Maryland House of Correction.	
Anne Arundel.	Brooklyn.	Public supply.		
Anne Arundel.	Curtis Bay.	Public supply.		
Anne Arundel.	Eastport.		Study, plan and estimate for sewerage system.	Sanitary conditions.
Anne Arundel.	Germanatown.			Sanitary conditions.
Anne Arundel.	Linthicum Hgts.	Public supply.		
Anne Arundel.	Linthicum Hgts.	Private wells.		
Anne Arundel.	Round Bay.	Private wells.		
Anne Arundel.	Beach.			
Anne Arundel.	Severna Park.	Public supply.		
Anne Arundel.	Welham.			Sanitary conditions on farms.
.....	Baltimore City.	Broad Rock Mineral Springs Company.		Nuisance at Polk Street and Gorsuch Avenue.

# INVESTIGATIONS MADE BY ENGINEERING DIVISION DURING 1914—Continued.

COUNTY.	TOWN OR LOCALITY.	NATURE OF INVESTIGATION.		
		Water Supply.	Sewerage.	Miscellaneous.
	Baltimore City...	Buena Vista Spring Water Company.		Sanitary conditions near Chas. St. Avenue and Oak Street.
	Baltimore City...	Mountain Valley Spring Water Company.		
Baltimore.	Arbutus.	Supply of Baltimore Manual Labor School.		
Baltimore.	Arlington.	Denmore Water Company.	Sewerage for houses on Disney Avenue and on Summit Ave- nue.	Nuisance at Park Heights and Oakley Avenues.
Baltimore.	Arlington.	Suburban Water Company.	Sewage disposal at Dupont Park.	
Baltimore.	Arlington.	Supply at Gentlemen's Driving Park.		
Baltimore.	Belair Road.			Sanitary conditions in 3400 block Belair Road.
Baltimore.	Brooklandville.	Brooklandwood Spring Water Company.		
Baltimore.	Catonsville	Private wells.	Sewerage of Spring Grove. State Hospital.	Nuisance on Frederick Road.
Baltimore.	Chattolancee	Chattolancee Spring Water Com- pany.		
Baltimore.	Edgemere.	Private wells.		
Baltimore.	Evergreen Lawn.	Public supply.		Pollution of Tiffany Run.
Baltimore.	Govans.	Mountain Rock Spring Water Company.	Sewage disposal at Ardmore Park.	Petty nuisances.
Baltimore.	Highlandtown.			Petty nuisances.
Baltimore.	Howard Park.	Public supply.		Nuisance on Milford Avenue.
Baltimore.	Mt. Washington.	Private wells on Kelly Avenue.	Sewerage conditions on Matt- feldt Avenue.	Condition of old mill race.

STATE BOARD OF HEALTH.

## INVESTIGATIONS MADE BY ENGINEERING DIVISION DURING 1914—Continued.

COUNTY.	TOWN OR LOCALITY.	NATURE OF INVESTIGATION.	
		Water Supply.	Miscellaneous.
Baltimore.	Pikesville.	Sewage disposal at Troop "A" Armory.	
Baltimore.	Reckord.		Nuisance at rendering plant.
Baltimore.	Reisterstown.	Supply of Franklin High School.	
Baltimore.	Roland Park.	Public supply.	Sewage disposal plant.
Baltimore.	Ruxton.	Public supply.	Private sewage disposal plant.
Baltimore.	Ruxton.	Royal Spring Water Company.	Sanitary conditions.
Baltimore.	Ruxton.	Private wells.	
Baltimore.	St. Helena.	Public supply.	
Baltimore.	St. Helena.	Private wells.	
Baltimore.	Violetville.	Public supply.	
Baltimore.	West Arlington.		Sanitary conditions near Buck's Lane.
Baltimore.	Woodlawn.	Powhatan Spring Water Company.	
Caroline.	Denton.	Public supply.	
Caroline.	Federalburg.	Sewerage for high school.	
Caroline.	Greensboro.	Sewerage conditions.	
Caroline.	Greensboro.	Extensions of public supply.	
Caroline.	Preston.	Sewer construction.	Nuisances at canneries.
Caroline.	Ridgely.	Public supply.	
Carroll.	Sykesville.	Springfield State Hospital—Plan for and construction of sewage disposal plant.	
Carroll.	Taneytown.	Public supply.	Sanitary conditions.
Carroll.	Union Bridge.	Public supply.	
Carroll.	Westminster.	Public supply.	Sanitary conditions.
Cecil.	Elkton.	Sewerage system.	
Cecil.	Perryville.	Public supply.	

INVESTIGATIONS MADE BY ENGINEERING DIVISION DURING 1914—Continued.

COUNTY.	TOWN OR LOCALITY.	NATURE OF INVESTIGATION.		
		Water Supply.	Sewerage.	Miscellaneous.
Cecil.	Port Deposit.	Supply of Tome Institute.		
Cecil.	Port Deposit.	Public supply.		
Cecil.	Port Deposit.	Supply of Silver Cross Home.		
Cecil.	Rising Sun.	Public supply.		
Charles.	Indian Head.	Supply of U. S. Naval Proving Station.	Sewerage of U. S. Naval Proving Station.	Sanitary survey.
Charles.	La Plata.		Sewerage conditions.	
Charles.	Pope's Creek.	Pennsylvania Railroad supply.		
Dorchester.	Cambridge.	Public supply.	Study, plan and estimate for main drainage and sewage disposal.	
Dorchester.	Cambridge.	Supply of Eastern Shore State Hospital.	Sewerage of Eastern Shore State Hospital.	
Dorchester.	E. New Market.	Public supply.		
Dorchester.	Hurlock.	Public supply.	Study, plan and estimate for sewerage system.	
Dorchester.	Hurlock.	Study, plan and estimate for new public supply.		
Frederick.	Adamstown.	Private wells.		
Frederick.	Brunswick.	Public supply.		
Frederick.	Buckeystown.		Sewerage of Buckingham Industrial School.	
Frederick.	Burkittsville.	Public supply.		
Frederick.	Emmitsburg.	Public supply.	Sewerage conditions.	
Frederick.	Frederick.		Sewerage extensions.	
Frederick.	Frederick.		Sewerage of Hood College.	
Frederick.	Middletown.	Public supply.		
Frederick.	Emmitsburg.	Supply of Mt. St. Mary's College.	Sewerage of Mt. St. Mary's College.	

## INVESTIGATIONS MADE BY ENGINEERING DIVISION DURING 1914—Continued.

COUNTY.	TOWN OR LOCALITY.	NATURE OF INVESTIGATION.		
		Water Supply.	Sewerage.	Miscellaneous.
Frederick.	Myersville.	Proposed public supply.		
Frederick.	Thurmont.	Public supply.		
Frederick.	Walkersville.	Public supply.		
Garrett.	Bond.			Sanitary conditions at lumber camp.
Garrett.	Deer Park.	Public supply.		
Garrett.	Mt. Lake Park.	Public supply.		
Garrett.	Oakland.	Public supply.		
Harford.	Aberdeen.	Private well.		
Harford.	Belair.		Sewerage for court house and jail.	Ice pond.
Harford.	Havre de Grace.	Public supply.		
Howard.	Ellicott City.	Public supply.		Petty nuisance.
Kent.	Betterton.		Private sewerage system.	
Kent.	Chestertown.	Public supply.	Proposed sewerage system.	Ice plant; nuisance at ice plant.
Montgomery.	Bethesda.		Private sewerage system.	Sanitary conditions.
Montgomery.	Cabin John Pk.	Proposed supply.		
Montgomery.	Chevy Chase.	Public supply.	Experimental disposal plant of U. S. Public Health Service.	
Montgomery.	Drainage areas adjoining Dist. of Columbia.		Study, plans and estimate and report for main drainage.	
Montgomery.	Forest Glen.	Supply of National Park Seminary.	Sewerage of National Park Seminary.	Sanitary conditions.
Montgomery.	Glen Echo.	Public supply.	Sewerage system.	
Montgomery.	Kensington.	Proposed public supply.	Proposed sewerage system.	
Montgomery.	Kensington.	Private wells.		
Montgomery.	Rockville.	Public supply.	Sewerage conditions.	Typhoid fever epidemic.

INVESTIGATIONS MADE BY ENGINEERING DIVISION DURING 1914—Continued.

COUNTY.	TOWN OR LOCALITY.	NATURE OF INVESTIGATION.		
		Water Supply.	Sewerage.	Miscellaneous.
Montgomery.	Rockville.	Private wells.		
Montgomery.	Somerset Hgts.	Public supply.		
Montgomery.	Takoma Park.	Public supply.	Sewerage system.	
Prince George's.	Bowie.	Supply for Pennsylvania R. R.		
Prince George's.	College Park.	Supply of Maryland Agricultural College.	Sewerage of Maryland Agricultural College.	
Prince George's.	Decatur Hgts.	Public supply.	Sewerage system.	
Prince George's.	Drainage areas adjoining Dist. of Columbia.		Study, plans and estimate for main drainage.	
Prince George's.	Greater Capitol Heights.	Private wells.		
Prince George's.	Hyattsville.	Public supply.		
Prince George's.	Lanham Hgts.	Water supply.	Sewerage conditions.	
Prince George's.	Laurel.	Public supply.		Petty nuisances.
Prince George's.	Mt. Rainier			Sanitary conditions.
Prince George's.	Riverdale.			
Queen Anne's.	Centreville.	Private wells.	Sewerage system.	
Queen Anne's.	Stevensville.	Private wells.		
Somerset.	Crisfield.	Public supply.	Study, plans and estimate for sewerage system.	Typhoid fever outbreak.
Somerset.	Crisfield.			Sanitary conditions.
Somerset.	Princess Anne.	Public supply.	Sewerage system.	
Talbot.	Clatborne.			Sanitary conditions.
Talbot.	Easton.	Public supply.	Sewer connections.	
Talbot.	Easton.		Sewage disposal plant.	
Talbot.	Easton.		Private sewerage system.	
Talbot.	Royal Oak.		Private sewerage system.	
Talbot.	St. Michaels.		Private sewerage system.	



## INVESTIGATIONS MADE BY ENGINEERING DIVISION DURING 1914—Continued.

COUNTY.	TOWN OR LOCALITY.	NATURE OF INVESTIGATION.		
		Water Supply.	Sewerage.	Miscellaneous.
Talbot.....	Tred Avon River.		Private sewerage system.....	
Washington.....	Boonsboro.	Public supply.....		
Washington.....	Chewsville.			Typhoid fever outbreak.
Washington.....	Edgemont.	Buena Vista Spring Water Company.		
Washington.....	Hagerstown	Public supply.....		
Wicomico.....	Delmar.	Public supply.....	Proposed sewerage system.....	
Wicomico.....	Salisbury.	Public supply.....	Sewerage extensions.....	
Worcester.....	Ocean City	Public supply.....	Sewerage system.....	Sanitary survey.
Worcester.....	Snow Hill	Public supply.....	Sewerage extensions.....	

## WATER SUPPLY INVESTIGATIONS.

The following brief summaries describe the more important water supply investigations made during 1914:

## ALLEGANY COUNTY.

*Frostburg*—Population in 1910, 6,028. The water system was described in the report for 1913. The study for an increased supply of water, carried on during that year, was completed early in 1914.

The report covering the investigation recommended reinforcement of the present sources of supply on the west side of Big Savage Mountain by the dry-weather flow of the Savage River and a small stream entering it from the south. From a point about 800 feet south of the pumping station, a gravity pipe line, passing in a tunnel through the mountain, would convey both spring and surface water to the existing distribution reservoir. The water would be treated by a coagulant when necessary, to remove high color which occurs in the river at times, and in addition would be disinfected by liquid chlorine.

It was estimated that the new development, together with the existing sources, would yield not less than 400,000 gallons per day in the driest weather, and that its cost, including engineering expenses, would be about \$108,735. All pumping charges would be saved under this plan, and the capitalized cost of pumping the amount of water now used would nearly pay for the construction of the tunnel.

An increased supply of water could be secured by the construction of a dam at a point about 1200 feet below the pumping station, flooding about 20 acres of land, and impounding 135,000,000 gallons of water, of which 125,000,000 gallons would be available for use. This development would yield about 1,100,000 gallons daily, the springs furnishing 250,000 gallons of this amount. The cost of this project was estimated at \$143,100, including engineering expenses, thus making the total cost of the ultimate development of the Savage River source \$251,835. In addition to the saving of pumping charges, it was believed that considerable income could be derived by the sale of ice from the impounding reservoir.

As a further development, the pumping of water to the reservoir, from Piney Run or from the Savage River at a point several miles downstream, was recommended.

The city authorities were advised to introduce a bill at the then existing legislative session, calling for the right to issue \$125,000 worth of bonds to carry out the first project. The bill was passed, but no further steps were taken.

*Lonaconing*—Population in 1910, 1,553. Lonaconing, a mining town located on Georges Creek, is served with water by the Lonaconing Water Company. A large area outside the corporate limits is also supplied by this company. Water is obtained from two impounded mountain streams, Jackson Run and Koontz Run, and work on impounding a third stream has been started, as the present supply is not adequate. Charles-town reservoir, formed by a masonry dam across Jackson Run, was the original supply. The stream has a watershed of about 2.5 square miles above the dam, and the reservoir a capacity of 3,000,000 gallons. Koontz reservoir, formed by a concrete dam, has a capacity of 2,000,000 gallons. The area of the watershed is about 2.5 square miles. The distribution system consists of about eight miles of mains and 34 fire hydrants. There are no available records as to the daily consumption. That portion of Lonaconing along Railroad Avenue uses water from the Midland public supply. A rigid inspection of all properties on the watersheds and the prevention of grazing near the streams or reservoirs was advised.

*Midland*—Population in 1910, 1,173. Midland is a mining town located on Georges Creek northeast of Lonaconing. It is served by the Midland Ellick Water Company. Water is derived from a mountain stream, Ellick Run, which has been impounded by an earth dam, forming a 2,000,000-gallon reservoir. The watershed above the dam has an area of 2.4 square miles. Upon it are located five houses. A regular inspection of these properties is conducted in order to insure their maintenance in a cleanly condition. The distribution system consists of about five miles of mains and 25 fire hydrants. No records of the daily water consumption are available. The water company had options on a site for another reservoir, but at the close of the year no definite steps had been taken towards enlarging the water supply.

*Westernport*—Population in 1910, 2,702. Westernport is situated at the junction of Georges Creek and the Potomac River, in the southwest corner of Allegany County. It is served by a municipally-owned water supply, formerly fed from the Piedmont system. The Piedmont supply is taken from the Savage River at a point about four miles above its mouth, and at times water is pumped into the mains from the Potomac River at Luke by the West Virginia Pulp and Paper Company. During 1913 a low intake dam was constructed on the Savage River, a short distance below the village of Bond, as a source of supply for Westernport. Water is conveyed from this point by gravity to the city through a wood-stave pipe line about eight miles long. Interruptions in service have occurred at frequent intervals due to breaks in the supply main caused by landslides, and at such times water is obtained from Piedmont as formerly.

Early in the year there was an epidemic of typhoid fever in Westernport. As most of the patients used water from the public supply, derived principally from the Potomac River, and as Piedmont was experiencing a similar outbreak, it appeared that the water supply was the cause. A disinfecting apparatus using electrolytic bleach was installed at the paper mill in Luke, and a hypochlorite plant was placed at the Westernport dam on the Savage River. The Potomac River plant was used whenever that source was utilized, but the Savage River apparatus was in operation for only a short time after its installation. At the end of the year the Westernport water supply situation was in an unsatisfactory condition.

#### ANNE ARUNDEL COUNTY.

*Annapolis*—Population in 1910, 8,609. Annapolis, the capital of the State, is served by the Annapolis Water Company, a municipal corporation. The company was incorporated in 1865 and the water works installed in 1868. The system serves the entire city, together with Germantown and Camp Parole, two small settlements located to the west. Water is taken from a small stream about four miles west of the city. The supply works consist of two shallow reservoirs from which the flood flows are diverted, a storage reservoir, pump well, pumping station, two distributing reservoirs, having a combined capacity of 8,500,000 gallons, and gravity supply mains leading to

the city. An auxiliary supply is derived from six tubular wells and from a small stream below the pumping station. There are about 18 miles of water mains in use, and the consumption is about 1,075,000 gallons per day. The watersheds are not subject to regular inspection nor does the water company control them. During the year the appearance of organic growths in the water led to its treatment with hypochlorite of calcium. Regular inspections of the watersheds were advised, and the company was urged to hasten the construction of a filter plant which had been under consideration.

*Bridewell*—Maryland House of Correction. The Maryland House of Correction has about 600 inmates. Following an epidemic of typhoid fever an investigation of the water supply was made. Water is obtained from Dorsey Run, a small and somewhat polluted stream flowing through the grounds. The water is collected at a low concrete dam, located just below the Baltimore and Ohio Railroad tracks. It flows by gravity to a small pump well from which it is pumped to a reservoir, with a capacity of 1,500,000 gallons, located on a hill about half a mile east of the institution. From the pumping station another main supplies directly the officers' quarters in the south wing of the main prison, and also an overhead tank situated under the roof in the north wing. On account of the small difference in elevation between the ordinary water surface in the reservoir and the main building, it was necessary to install this tank in order to obtain sufficient pressure to operate some of the plumbing fixtures. The distribution system was found to be inadequate and the result of no intelligent study.

Nineteen houses in Jessup, including a small cannery, are provided with water from this system.

In 1909 an attempt was made to improve the water supply of the institution by sinking two tubular wells at the rear of the main building, with the idea of abandoning the Dorsey Run supply. A new pumping station, together with equipment for raising the water from the wells by compressed air, was constructed. This plant was used but little after it was built, on account of the high cost of operation and an insufficient amount of water, and recourse was eventually made to the Dorsey Run supply.

Upon the advice of this Department a temporary hypochlorite, and finally a liquid chlorine, plant was installed. The institution was urged, furthermore, to construct a filter plant, and to provide adequate fire protection. Upon the request of the Board of Managers and the authorization of the Governor, this Department began the preparation of complete plans for both water supply and sewerage improvements, and the surveys were well under way at the close of the year.

*Curtis Bay*—Curtis Bay, an unincorporated community on the south side of the Patapsco River, has a population of about 3,000. The water system, which is owned by the Brooklyn and Curtis Bay Water and Light Company, was installed in 1893. In 1914 it was extended to Brooklyn. The supply consists of ten tubular wells, from 125 to 200 feet deep, from which water is raised by air into a receiving basin of 50,000 gallons capacity. The water is then pumped into the mains, surplus pumpage passing to a standpipe of 106,000 gallons capacity, located at a high point in the town. There are approximately 9.5 miles of mains and 550 services. The consumption is high, but this is due mainly to the large number of manufacturing establishments which are served. The wells are located in a closely built-up district, and the supply is of such quality that frequent examinations should be made, to ascertain any serious deterioration.

#### BALTIMORE COUNTY.

*Howard Park*—Howard Park is an unincorporated residential suburb northwest of Baltimore City, with a population of about 1,500. The water supply, owned by the Artesian Water Company, is derived from five 6-inch tubular wells from 125 to 250 feet in depth. Each well has an individual pumping station and the water is pumped directly to the mains, the surplus pumpage passing to an elevated tank of 50,000 gallons capacity. The water is of good quality. There are approximately seven miles of mains and 300 services. The average consumption is 60,000 gallons per day. It was recommended that the mains be flushed at regular intervals, in order to prevent clogging near the dead ends.

*Roland Park*—Roland Park, an unincorporated residential suburb north of Baltimore City, with a population of about

5,000, is served by the Roland Park Water Company. The company supplies, in addition, Normandy Heights, Melvale Heights, Heathbrook and Tuxedo, all of which are suburban communities in Baltimore County. The system consists of two sets of tubular wells, twenty-one in number, ranging in depth from 145 feet to 500 feet, and one spring, with a reservoir and pumping station for each set of wells, and two standpipes. Water is raised by air from the wells to the reservoirs from which it is pumped into the mains, the surplus being stored in the water towers. The spring water flows by gravity to one of the reservoirs. The water consumption is about 290,000 gallons per day. There are about 16 miles of mains and 950 services. Occasionally it has been necessary to supplement the supply with water from the wells at the Gilman Country School. The water is safe at this time, but the increasing density of population near the sources is liable to affect the quality; moreover, it will not be long before the quantity obtainable from the existing supply will be inadequate to meet the growing demand.

#### CAROLINE COUNTY.

*Greensboro*—Population in 1910, 609. Greensboro is situated on the Choptank River in the northern part of Caroline County. The original supply, which was privately owned and served but a small portion of the town, was installed in 1906. The system consisted of a single tubular well, about 165 feet deep, with an elevated tank of 12,000 gallons capacity. During 1914 a new water supply system was installed by the municipality. It consists of two tubular wells, about 312 feet deep, situated near the river, an elevated tank of 50,000 gallons capacity, and about three miles of distribution mains. One well had been driven and put in use before the end of the year, but the other was not completed.

*Ridgely*—Population in 1910, 943. The public water supply of Ridgely was installed in 1904. Water is obtained from ten tubular wells, about 65 feet deep, and is pumped into the distribution mains, the excess passing to an elevated tank of 65,000 gallons capacity. There are about three miles of mains and only 91 services. Less than half of the properties available to the system are connected with it. The quality of the water is satisfactory, but the town authorities were advised that a

general cleanup in the vicinity of the wells should be instituted, in order that several potential sources of pollution might be removed.

#### CARROLL COUNTY.

*Taneytown*—Population in 1910, 824. Taneytown is situated in the northwestern part of Carroll County. The original water supply, installed in 1897, was taken from Piney Creek, a small tributary of the Monocacy River. Before being delivered to the consumers, the water was passed through a gravel filter. This source was later abandoned, and water is now obtained from two tubular wells, 100 feet and 120 feet deep, located about half a mile north of the town. The water is collected in a receiving reservoir, with a capacity of 35,000 gallons, from which it is pumped into the distribution mains, the surplus being stored in a standpipe, which has a capacity of 92,000 gallons. There are about three miles of mains and 140 services. The supply is available to the entire town. Analysis of the water shows it to be of good quality. It was recommended that a connection between the old supply and the present one be removed.

#### CECIL COUNTY.

*Elkton*—Population in 1910, 2,487. Elkton is located on Big Elk Creek at the head of Elk River. The water supply is owned and operated by the Maryland Water Company. Water is taken from Big Elk Creek and is pumped into the distribution mains without treatment, surplus pumpage passing to an open reservoir on Gray's Hill east of the town. There are about 4.5 miles of mains and 325 services. Big Elk Creek has a watershed extending into Pennsylvania, and that portion which lies within Maryland contains about 19 square miles of farming country. The water supplied to the town is not safe for use without treatment, and it was recommended that the construction of a filtration plant, plans of which have already been received by this Department, be started at once.

*Perryville*—Population in 1910, 635. Perryville, which is situated at the mouth of the Susquehanna River, is served by the Perryville Water Company. The water system was installed in 1892. Water is obtained from a branch of Mill Creek at a



point about 2.5 miles north of Perryville, where a concrete dam forms a reservoir of about 3,000,000 gallons capacity. The supply is a gravity one and is available to the entire town. There are about 2.8 miles of mains and 200 services. A survey of the watershed of the stream above the dam showed the existence of numerous sources of pollution. The water was found unsafe for use, and the company was directed to install a temporary disinfecting plant. This was later replaced by a permanent plant using liquid chlorine.

#### DORCHESTER COUNTY.

*Hurlock*—Population in 1910, 516. The water supply of Hurlock was described in the 1913 report. During 1914 this Department, at the request of the town commissioners, presented a preliminary plan and estimate of cost for a complete water system. This design contemplated two tubular wells, an elevated tank with a capacity of 75,000 gallons, and about two miles of mains. The estimated cost, exclusive of land, was \$19,250. The bond issue for the new supply was approved by a vote of the citizens.

#### FREDERICK COUNTY.

*Emmitsburg*—Population in 1910, 1,054. Emmitsburg is located east of the Blue Ridge Mountains and about a mile south of the Pennsylvania line. It is served by the Emmitsburg Water Company, a corporation established in 1883. The water system consists of a number of springs located in Hampton Valley near Turkey Creek, about two miles west of the town, and two reservoirs with a combined capacity of about 1,000,000 gallons. The water is conveyed to the distribution mains by gravity and is available to the entire town. There are about four miles of delivery and distribution mains and 150 services.

*Middletown*—Population in 1910, 692. Middletown is served by a municipally-owned water system which was installed in 1904. Water is obtained from two springs on the west side of Catoctin Mountain near the base of High Knob, to the north-east of the town, and is collected in a reservoir, with a capacity of 650,000 gallons. An auxiliary supply, consisting of four springs located close to Cone Branch, to the east of the town,

is used in case of a shortage of water. The water from the springs is collected in a receiving basin and thence pumped to the reservoir. There are about four miles of delivery and distribution mains and 218 services. The springs on High Knob were found to be in safe condition but the auxiliary sources were so constructed as to be subject to polluting influences.

*Walkersville*—Population in 1910, 582. The Walkersville water system, installed in 1908, is owned by the Walkersville Water Company. Water is obtained from four springs and a small stream near an old mill site about four miles east of the town. It is ordinarily collected in a gravity main leading directly to the town, the surplus flow passing into a series of two reservoirs with earth banks. It is possible, also, to pass the water through the reservoirs before reaching the main. The stream is supposed to be used only when the spring flow is low. The system consists of about five miles of delivery and distribution mains and is available to the entire town. The water obtained from the springs is of good quality, while the surface water shows signs of pollution and is not safe for use without treatment. Odors and tastes in the water had been complained of and suggestions were given for relieving this trouble by separating the surface and spring water, draining an area of swamp land along the stream, and providing a continuous flow of stream water through the reservoirs. The reservoirs were to be held for use in case of emergency.

#### GARRETT COUNTY.

*Deer Park*—Population in 1910, 988. Deer Park is one of the large mountain summer resorts in Western Maryland. Water is obtained from Boiling Spring on the west side of Backbone Mountain about two miles southeast of the town. It flows by gravity to a small covered reservoir near the Baltimore & Ohio Railroad, from which it is pumped to two 50,000 gallon wooden tanks located on a hill west of the town. The water system is privately owned and supplies a large hotel and several summer cottages. Deer Park itself has no public water supply.

*Mountain Lake Park*—Population in 1910, 335. Mountain Lake Park is an important summer resort in Western Maryland. The water system, which is owned by the Mountain Lake

Water and Light Company, was installed in 1898, when water was obtained by gravity from Crystal Spring near the head of Mountain Lake. The demand for water became so great that this supply was abandoned in 1906 in favor of the present one, which comprises a series of five springs on the west side of Backbone Mountain about three miles southeast of the town. The water from one large and one small spring is conveyed directly to the mains, while that from the three other springs is first collected in a small reservoir. The entire supply is by gravity. The system serves both Mountain Lake Park and Loch Lynn, and consists of about 8.5 miles of delivery and distribution mains. The water consumption during the summer is estimated to be 500,000 gallons per day.

*Oakland*—Population in 1910, 1,336. Oakland is served by a municipally-owned water supply, derived from three tubular wells, two of which are located at the north side of the town, and the other at the south side, on the bank of the Youghiogheny River. The wells vary in depth from 165 to 250 feet. The water from the north wells is pumped to a collecting basin and thence to a reservoir, with a capacity of 265,000 gallons, located on a hill north of the town. The water from the other well is pumped directly to the reservoir. The system is composed of about 3.5 miles of mains and is available to most of the residents.

#### HARFORD COUNTY.

*Havre de Grace*—Population in 1910, 4,212. Havre de Grace is located on the west bank of the Susquehanna River at its mouth. The water system is owned by the Havre de Grace Water Company. The supply is derived from the Susquehanna River and is passed through a mechanical filtration plant consisting of a coagulating basin, using alum, and a two-unit installation of the old type of wooden-tub filters provided with rakes for agitating the sand during cleaning. The effluent is collected in a clear-water basin from which it is pumped directly to the mains, the surplus passing to a reservoir located on a hill outside the city. The system has about 10 miles of distribution mains, 575 services and 180 meters.

## KENT COUNTY.

*Chestertown*—Population in 1910, 2,735. Chestertown is situated on the Chester River about 22 miles above its mouth. It is served by a municipally-owned water system which derives its water from three springs located near the easterly corner of the town in the valley of a small stream and close to the thickly built-up sections. There are, in addition, two driven wells, 580 and 1,033 feet deep, the former of which is used in case of shortage only. The deeper well yields water of an unsatisfactory character, and it has never been connected to the system. Water is pumped directly into the distribution mains, any excess passing to an open earthen reservoir of about 1,000,000 gallons capacity, situated on a hill near Washington College. The reservoir leaks badly and it is impossible to maintain it more than one-third full. There are about 400 services on the system and the water consumption is estimated at about 115,000 gallons per day.

Many polluting influences were found on the watershed of the stream passing the springs, and analyses showed the water supply to be in a suspicious condition. Treatment of the water seemed advisable and a crude apparatus for applying hypochlorite of lime was constructed and operated under the direction of this Department. The treatment has been continuously satisfactory. The Department recommended that these sources be abandoned entirely, both on account of the quality and quantity of the water available, and also that the existing storage reservoir be replaced by an elevated tank situated at a higher elevation. As the town authorities were without the necessary funds to carry out the suggested improvements, they requested that an order be served upon them, directing that the work be done. The first order prepared under the new water supply and sewerage law was therefore issued, and an improvement started which would have been delayed for two years. At the end of the year the construction work was well under way.

## MONTGOMERY COUNTY.

*Chevy Chase*—Chevy Chase is a superior type of suburban residential development just northwest of, and partly within, the District of Columbia. The Maryland portion is served by

a water system, owned and operated by the Chevy Chase Land Company. Water is obtained from 18 tubular wells located in different sections of the development and varying in depth from 50 to 500 feet. The water from the 12 wells in one section is pumped to a small collecting basin and thence to a standpipe with a capacity of 350,000 gallons. From the remaining wells pumping is maintained directly into the system, any excess passing to the standpipe. There are about 18.5 miles of distribution mains in the system and about 185 services supplying approximately 1,000 people. The water consumption is about 40,000 gallons per day. The water at present is in safe condition, but the amount is scarcely sufficient to meet the present needs, and it appears as if but little additional can be secured by further well development. It was recommended that the company have the water supply situation thoroughly studied and consideration given to the abandonment of the present sources in favor of a surface supply.

*Rockville*—Population in 1914, 1,181. Rockville, the county seat of Montgomery County, is situated about fifteen miles northwest of Washington. The water supply, introduced in 1897, originally consisted of one tubular well, 225 feet deep, driven into solid rock. This well was later supplemented by another of the same depth. Water is pumped from these wells first to a small collecting tank in the pumping station, and thence to an elevated tank situated on a nearby hill. It is available to practically the entire town and is used by about 90 per cent. of the population.

In February a severe outbreak of typhoid fever occurred in which 28 cases ultimately appeared. Investigation by this Department and the United States Public Health Service pointed to the water supply as the causative factor, and it was deemed best to install a disinfecting plant at once. Within 30 hours the plant was in operation and ever since has been treating Rockville's water supply successfully with hypochlorite of calcium. Eleven new cases of typhoid fever developed within two weeks after the installation of the plant, but no more were afterwards reported. Later investigations, supplemented by analysis of the water, showed conclusively that the old well was polluted, and that drainage from a privy at a house where the first case of typhoid fever occurred had been carried through

the soil into the well, either by means of a fissure in the rock or an opening between the well casing and the rock.

Rockville has no sewerage system, and to the lack of this the epidemic must be attributed. The town had not the right to bond itself, without prior legislation, for building sewers, and therefore a bill was presented to the Legislature, and passed, calling for the right to issue \$50,000 worth of bonds to construct a sewerage system and to improve the water supply, without the usual referendum clause attached. Plans for a complete sewerage system were prepared, and at the close of the year the construction work was well under way.

*Somerset*—Population in 1910, 173. Somerset is a small community situated near the northwest boundary of the District of Columbia. It is served with water by the Somerset Heights Water and Power Company. Water is obtained from three wells and a spring, and is collected in a small reservoir, whence it is pumped to an elevated tank of about 10,000 gallons capacity. The water was found upon examination to be of such a character that it might deteriorate at any time, and frequent examinations are deemed advisable.

*Takoma Park*—Population in 1910, 1,242. Takoma Park is a residential town situated on the northeast boundary of the District of Columbia. In 1900, bonds were issued for the construction of a public water supply. As originally constructed the system took water from Sligo Branch at a small intake dam situated about a mile northeast of the town. The water was pumped directly into the distribution mains, any excess passing to an elevated tank of 50,000 gallons capacity. A mechanical filter plant was added in 1910, on account of the increasing pollution of Sligo Branch. The water is pumped in two stages, first to the filtration plant, thence into the mains. Sulphate of alumina is used as a coagulant. The system consists of about 7.5 miles of distribution and delivery mains and about 350 services, and is available to practically the entire town. The operating results have not been entirely satisfactory and it seems advisable to supplement the filtration process by disinfection. The Department proposes to make a more thorough study of this filtration plant during 1915.

## WASHINGTON COUNTY.

*Boonsboro*—Population in 1910, 759. Boonsboro is served by a public water system, installed in 1897 and owned by the Boonsboro Water Company. Water is obtained from Monument and Mint Springs located on the west side of Monument Knob. A large collecting basin receives the flow from the springs and acts as a distributing reservoir, providing flow to the town. The system consists of about 2.8 miles of delivery and distribution mains. Conditions in the vicinity of Mint Spring are bad and analysis of its water shows pollution. While its yield is very small, its condition is a source of danger to the supply. It was recommended that, if Mint Spring be continued in use, it be reconstructed so as to exclude any possibility of surface pollution.

## BOTTLED-WATER SUPPLY INVESTIGATIONS.

The following brief descriptions refer to the bottled-water supplies in the State which were examined during 1914:

*Broad Rock Mineral Springs Company*—The Broad Rock Mineral Springs Company obtains its water from the Broad Rock Mineral Springs, in Chesterfield County, Virginia. All water is bottled at the spring and the bottling plant and surroundings are under the jurisdiction of the Virginia State Dairy and Food Commission.

*Brooklandwood Spring Water Company*—The Brooklandwood Spring Water Company's water comes from three springs on the Brooklandwood Farm at Brooklandville, Baltimore County. The springs rise in masonry, marble-lined basins, constructed so as to prevent pollution, and the water is conducted by pipes to covered collecting reservoirs. From the reservoirs it is pumped to an elevated tank, whence it is delivered to the bottling plant. The bottles are washed, sterilized and filled by modern machinery. The entire course through which the water passes from spring to consumer is carefully protected. A permit was issued allowing the sale of this water..

*Buena Vista Spring Water Company*—The spring from which the Buena Vista Spring Water Company derives its supply is located on the side of Quirauk Mountain, Washington County, about one mile north of Edgemont and near the Western

Maryland Railroad. The spring rises in a storage basin of about 6,000 gallons capacity, constructed with masonry sides, and the water is carried from it by a pipe to the loading platform at a railroad siding, where large galvanized-steel barrels are filled and shipped to the bottling plant in Baltimore. At the bottling plant the water is pumped from the barrels to storage tanks, from which it flows to the bottling table, first passing through a small, cloth filter. It is supplied to the bottles through a nozzle attached to a hose. The bottles are washed and rinsed with Baltimore City water before filling. The plant bottles from 5,000 to 6,000 gallons per week. Slight structural changes were required at the spring to protect it from surface pollution, and better methods of washing at the bottling plant were advised. At the end of the year the improvements had been made at the spring, but bottling conditions remained unchanged.

*Chattolance Spring Water Company*—The Chattolance Spring Water Company derives its water from Champagne Spring, at Chattolance, Baltimore County. The spring rises in a small stone-lined basin, which is well protected from the entrance of surface pollution by a concrete curb and cover. Water is conveyed from the basin through porcelain-lined galvanized-iron pipes to the bottling plant. The bottles are thoroughly washed and sterilized in a modern washing machine, and are filled in a special apparatus. The spring and plant are kept in excellent condition, and the bottling process is carried on in a cleanly manner. A permit was issued for the sale of this water.

*Mountain Rock Spring Water Company*—The Mountain Rock Spring Water Company obtains its water from a spring located in Govans, just north of the Baltimore City boundary. The spring was found to be in a very dilapidated condition and open to pollution, and the process of bottling, which was carried on at the spring, was equally bad. The company was directed to cease selling bottled water from this source until the spring was properly cleaned and a suitable building constructed to protect it from pollution, also to make satisfactory improvements in the methods of washing and filling the bottles. This is one of the worst bottled water supplies which has been investigated so far.



*Mountain Valley Spring Water Company*—The Mountain Valley Spring Water Company obtains its water from the Mountain Valley Springs in the Ozark Mountains, Arkansas. The water is shipped, in gas-tight steel barrels, to the bottling plant in Baltimore City. Changes were recommended in the washing and bottling processes.

*Powhatan Spring Water Company*—The Powhatan Spring Water Company obtains its water from a spring at Woodlawn, Baltimore County. The spring is located in the woods and is well protected from surface wash. The company owns 35 acres of land above the springs. The watershed is small and no houses are located thereon. The bottles are carefully washed, rinsed and filled in special machines, and finally covered by a patented top. Conditions of bottling at this plant are excellent. A permit was issued for the sale of this water.

*Royal Spring Water Company*—The Royal Spring Water Company derives its water from a well known as the Gneiss Rock Well, about 534 feet deep, which is located in Ruxton, Baltimore County. The water is passed through a small sand filter before being placed in the bottles. The bottles are thoroughly washed in a modern apparatus and are filled in a special bottling machine. It was necessary to correct the methods used in bottling, but conditions are now satisfactory. A permit was issued allowing the sale of this water.

## SEWERAGE INVESTIGATIONS.

The more important sewerage investigations made during 1914 are summarized briefly below:

## ANNE ARUNDEL COUNTY.

*Bridewell*—Maryland House of Correction. An investigation of the sewerage system at this institution was made while the water supply situation was under consideration. There is very little information concerning the existing sewers, but they follow no comprehensive plan, and in many instances new additions to buildings have been connected to storm sewers.

Most of the sewage is collected in a system which discharges into a septic tank and thence onto a broad irrigation field supplemented by a gravel filter, to the southwest of the main building. The irrigation field is in a most dilapidated condition, and apparently has received little or no attention. The sewage discharges from the septic tank onto the surface of the field, and thence finds its way, in a raw state, to a stream, which is a branch of Dorsey Run, by means of irregular channels formed in the ground. The filter is usually filled to overflowing. The condition created in the stream by this discharge is offensive and the ground over which the sewage flows is coated with a filthy layer of sludge. A sludge trench adjacent to the septic tank was being used as a hog wallow. It was recommended that the Board of Managers adopt means to correct these conditions, and upon their request this Department took up the preparation of complete plans for improving the methods of sewage disposal at the institution at the same time that the water supply situation was being considered. Surveys were well under way before the end of the year.

## CARROLL COUNTY.

*Sykesville*—Springfield State Hospital. There are about 1,800 patients, officers and attendants at this institution. The attention of the Department was directed to sewerage conditions by complaints about a nuisance in Piney Run, a stream passing through the grounds. Sewage from a septic tank was

being discharged about four times a day into a small tributary of the main stream, and into the latter continuously from the laundry during about eight hours a day. The stream below the institution was offensive.

The disposal system proposed had never been completed. It consisted of two septic tanks, one near the Women's Group of buildings, and another about half a mile south of the Men's Group, on opposite sides of Piney Run. Sewage from the Women's Group tank was discharged at intervals, through a long inverted siphon under the stream, to a large flush tank adjoining the Men's Group tank, which also received the flow from the latter. The flush tank was provided with an automatic siphon, which caused it to discharge when filled. The original plans contemplated further treatment of the sewage by broad irrigation and passage through a gravel filter, the installation covering about 10 acres of ground bordering the stream; and trenches had already been dug for laying underdrains in this area preparatory to developing it, when the investigation was made. This Department believed that the method, as proposed, would be unsatisfactory and expensive, besides utilizing a large amount of land which could be better used for other purposes, and the authorities of the institution were advised to abandon the plan and substitute a sprinkling filter installation, which could occupy about one-tenth of an acre. As a result, the Board of Managers requested that plans be prepared by this Department, and that it supervise the construction of the plant. This work was authorized by the Governor, and at the end of the year a portion of the plant was in use. Most of the work was done by patient labor. The results secured from its operation indicate that objectionable pollution of the stream will be prevented.

The existing Men's Group tanks were remodelled, so that both could be used as settling tanks, and the Women's Group tanks were abandoned. As no provision had been made for sludge disposal, a sludge bed was constructed near the former. All laundry wastes and sewage from the power house were pumped by an automatic ejector to a screen chamber at the Women's Group tanks, and thence passed through the inverted siphon with the sewage from the buildings of the Women's Group.

## DORCHESTER COUNTY.

*Cambridge*—Population in 1910, 6,407. In 1912 an investigation was commenced for the purpose of devising a plan for main drainage in Cambridge, in order to eliminate the objectionable conditions existing in the harbor. Conditions in Cambridge were described in the 1912 report. In 1913 a preliminary survey for a trunk sewer was made but the investigation was not completed until early in 1914. Plans were prepared showing intercepting sewers which would pass along both sides of the harbor and the river front to the westerly corporate limit where a pumping station and disposal plant would be located and the effluent discharged through a submerged outfall into the Choptank River.

The treatment works would consist of two-story settling tanks, sludge beds, liquid chlorine apparatus and small detention tanks. Disinfection of the sewage is necessary on account of the proximity of oyster beds in the river. The taking of oysters from within a definitely prescribed distance of the sewer outlet should be prohibited.

The cost of the system as designed, including engineering expenses but not land nor rights-of-way, was estimated at \$81,135.00. The annual cost of maintaining the sewers and pumping and treating the sewage was estimated at \$3,610, on the basis of 1,000,000 gallons of sewage per 24 hours, exclusive of fixed charges. With fixed charges the expense would be about \$8,338.

*Hurlock*—Population in 1910, 516. In conjunction with a study for an improved water supply for Hurlock, a preliminary survey, plan and estimate were made for a sewerage system. On account of the slight variation in elevation existing in different parts of the town and the country immediately surrounding, the installation of a sewerage system was found to be more expensive than is generally the case in a place of its size. The system would consist of about 2.6 miles of sewers. It is laid out so that it can be easily extended as the population increases. The sewage is to be carried to a point to the southeast of the town, where it is to pass through a settling tank and intermittent sand filters. The cost of the system is estimated at \$23,325, of which \$16,700 is for sewers and \$6,625 for the disposal plant. This includes the cost of engineering

but not of land nor rights-of-way. The bond issue for this work was passed by the voters at the same time the water supply bonds were voted upon. At the end of the year plans were being prepared.

#### FREDERICK COUNTY.

*Emmitsburg*—Population in 1910, 1,054. Emmitsburg has a public water supply, and consequently many of the houses are equipped with modern plumbing. No public sewerage system exists and the principal methods for the disposal of sewage are either by cesspools with overflows to one of two streams located, respectively, at the northerly and southerly portions of the town, or by pipes discharging directly to the streams. There is a semi-private system, serving a hotel and a few houses, which discharges into a dilapidated settling tank near the north stream. The nuisance caused by this wholly inadequate affair is highly offensive. Both the streams are in an objectionable condition in summer. The Department has made an extended investigation, locating all sewer outlets, and has prepared a map showing the houses connected to sewers discharging through these outlets. The need of an adequate general system is plainly indicated. The matter has been taken up with the town authorities but so far no movement for sewers has been started.

#### KENT COUNTY.

*Betterton*—Population in 1910, 308. Betterton is a summer resort situated on the eastern shore of Chesapeake Bay, near its upper end. In May an examination was made of the methods of sewage disposal for the summer hotels and cottages. It was found that sewage from the three largest hotels was being emptied into Chesapeake Bay at two points along the bathing beach, and that a drainage ditch discharging at the middle of the beach received overflows from cesspools and drainage from privies and hogpens. Where the ditch discharges into the Bay a pool of foul water is usually to be found standing in the midst of the area where bathers congregate. The consequences of such a condition are not pleasant to contemplate. During the bathing season this Department had installed and operated under its supervision a crude apparatus for applying a chloride

of lime solution to the ditch. The sewerage situation at Betterton is serious, as the resort is a popular one. Bathing is one of its chief attractions and yet it is a menace to the public health. A complete sewerage system for the town, or at least for the hotels and buildings along the waterfront is necessary.

MONTGOMERY AND PRINCE GEORGE'S COUNTIES.

*Washington Suburban Sanitary District*—Mention was made in the 1912 and 1913 reports of sanitary conditions in those parts of Montgomery and Prince George's Counties lying contiguous to the District of Columbia, and the work being carried on by this Department in the making of surveys for trunk sewers to relieve the objectionable conditions. During the latter part of 1913 the surveys were completed, but the office studies were continued into 1914. This work involved the preparation of many plans, the design of sewers, and estimates of cost for the various projects. A special report upon this subject, dated February 3, 1914, has been printed separately.

Briefly, the results of the investigation showed that there were four main drainage areas into which the territory might be divided, and that each one of these areas could be provided with main drainage systems without any particular difficulty, the outlets of the systems to be either into sewers of the District of Columbia or into separate disposal plants at the District line. The natural drainage areas are: Little Falls Brook, on the northwest boundary of the District; Rock Creek, at the northerly corner of the District; Anacostia River, Northeast and Northwest Branches, on the northeast boundary of the District; and Oxon Run, on the southeast boundary. Oxon Run drainage area is sparsely built-up at this time, and has been given little attention.

The trunk sewers to serve the entire Little Falls Brook drainage area start in Chevy Chase and Bethesda, on different branches of the stream, and after meeting at the main stream follow it to a disposal plant below the Conduit Road. The total length of trunk sewers for this system is 6.22 miles. The estimated cost of the main drainage system, including engineering but not land nor rights-of-way, is \$83,300, of which \$76,700 is for sewers and \$6,600 for the disposal plant.

In the Rock Creek drainage area the trunk sewer commences at the northerly end of Bethesda and follows Bethesda Branch to Rock Creek, thence along this stream, intercepting tributary lines from Kensington, Forest Glen and Chevy Chase, to a connection at the District line with a proposed sewer of the District of Columbia system. While the sewer was designed to serve the entire area below a point just above Garrett Park, immediate construction is recommended only to and including the Kensington Branch. The portion proposed for immediate construction has a length of 4.85 miles, and the estimated cost is \$102,900. No disposal plant is included in this estimate, as the sewage would be discharged into the District system. To complete the system to include Bethesda Branch would cost \$24,900 or a total of \$127,800 for the entire project of 6.73 miles.

In the Anacostia River and Northeast and Northwest Branch drainage areas, the sewer along Northwest Branch is proposed to start at Takoma Park at the sewage disposal plants on Sligo and Takoma Park Branches, and to follow Sligo Branch and Northwest Branch, through Mount Rainier, Brentwood and Hyattsville, to a junction with the Northeast Branch sewer on the Anacostia River just below the Bladensburg Road. The Northeast Branch sewer is formed by two sewers whose junction is at the confluence of Indian Creek and Paint Branch, one tributary starting at Branchville on Indian Creek and the other at Berwyn on Paint Branch. It then follows the stream through College Park, Riverdale, Hyattsville and Bladensburg to its junction with the Northwest Branch sewer. Here a pumping station is to be located and the sewage raised to a sufficient elevation to allow it to flow by gravity through a sewer along the Anacostia River to a proposed District of Columbia sewer at the District line, intercepting on the way a branch from Mt. Rainier. On Northwest Branch, construction is contemplated at present only as far as Grape Street in Mt. Rainier, and on Northeast Branch as far as Jefferson Avenue in Riverdale. The portion proposed for early construction has a length of 5.64 miles, and the estimated cost is \$152,900. The cost of the entire system of 13.94 miles is estimated at \$327,400. As the population increases very considerably provision has been made for high-level relief sewers. No estimate of cost of these future lines has been made.

For the purpose of constructing the main drainage systems outlined, and handling the entire sewerage situation in the suburban areas near the District of Columbia, it was proposed that a sanitary district be formed, to be under a Commission which would have control over all sewerage construction. A bill was introduced into the Legislature embodying these ideas, but it failed of passage.

PRINCE GEORGE'S COUNTY.

*College Park*—Maryland Agricultural College. The matter of sewerage for proposed new buildings for this institution was taken up with the college authorities during the year. The existing buildings are served by a system which discharges to a disposal plant consisting of a two-story settling tank and four intermittent sand filters to the west of the property. The drainage from the proposed structures would be towards the east into Paint Branch, and any sewerage system to be laid out should drain to this stream. The authorities were advised that plans should be prepared and submitted to this Department showing a general scheme of sewerage for the ultimate development of the college. As the number of students will not be large for some time, it will not be necessary to purify the sewage to any high degree at present, but later on a sewage disposal plant will be required near Paint Branch, unless a trunk sewer is constructed to serve the communities draining into this stream. Plans for sewer extensions to serve certain buildings, and for a temporary disposal plant, were presented to this Department before the end of the year.



## MISCELLANEOUS UNDERTAKINGS.

The following summaries are the results of other examinations of importance, not included under the general subjects of water supply and sewerage, that were undertaken during 1914:

## ALLEGANY COUNTY.

*Cumberland*—Investigation of the pollution of the Potomac River, Wills Creek and the Chesapeake and Ohio Canal in the vicinity of Cumberland was continued during the year. The Potomac River is grossly polluted, before it reaches Cumberland, by mine drainage, manufacturing wastes, and the sewage from a large number of towns. Cumberland adds to this pollution by discharging crude sewage into the river at several points. Wills Creek receives considerable amounts of mine wastes from Eckhart Run and Jennings Run, wastes from a large tannery and other manufacturing establishments in Cumberland, and large quantities of crude sewage. The canal shows the effect of pollution more markedly than the streams, and violent septic action occurs in warm weather.

The general insanitary and disgusting conditions prevailing in the main water-courses about Cumberland are deplorable. Relief may be obtained only by the construction of a comprehensive system of trunk sewers, so that the sewage may be collected at a single point below the city where, after proper treatment, it can be discharged into the Potomac River.

*Lonaconing*—At the request of the Lonaconing Civic League an investigation was made of existing methods of refuse disposal, which included a brief study of means for relieving the present insanitary conditions caused by improper disposal. It is the custom to dump sewage, garbage and refuse into Georges Creek, creating offensive odors and making the banks of the stream in the town, and for a long distance below, unsightly in the extreme. Permission was obtained by the Civic League from the municipal authorities to collect refuse and dump it at a point below the town on a lot given by a coal company, but this plan did not relieve conditions, so the Civic League decided to build an incinerator, with the hope that if successful

the municipality would take it over. With this end in view the help of this Department was sought. It was recommended that an incinerator with a daily capacity of five tons be constructed, and a regular system of refuse collection be inaugurated. Such a plant would be capable of consuming garbage, night soil, paper and combustible refuse, but not ashes. No action has yet been taken in this matter.

*Westernport*—During the early part of the year the attention of the Department was directed to Westernport by the prevalence of typhoid fever which had assumed epidemic proportions. Water supply conditions have always been unsatisfactory in Westernport and undoubtedly a large amount of disease can be traced to impure water. It was found that a severe outbreak occurred three or four weeks after the bursting of the Stony River Dam of the West Virginia Pulp and Paper Company, which caused flood conditions in the Potomac River, and the consequent washing of accumulated polluting matter from the banks into the stream. It happened that the Westernport and Piedmont water supplies failed at the same time, and just about one hour before the dam burst the pump in the West Virginia Pulp and Paper Company's mill at Luke was started, sending untreated Potomac River water into the mains of both these towns.

An extensive investigation of sanitary conditions was made in Westernport and a great many dangerous nuisances were found. The town is partially sewered by a few inadequate sewer lines. Properties along streams usually discharged directly into the streams, while other places made use of privies. Most of the privies were not of a sanitary type. Each property was examined and the owners were directed to make the necessary changes to correct bad conditions. Some improvement was secured in this way, but it was hardly sufficient to be permanent. The town is badly in need of an adequate sewerage system. The typhoid fever rate has been high in past years and is showing little decline.

#### ANNE ARUNDEL COUNTY.

*Eastport*—Eastport is an unincorporated residential suburb of Annapolis, with a population close to 2,000, situated near Annapolis on the southwesterly shore of the Severn River. No

public system of water supply nor sewerage exists, shallow individual wells and surface privies serving the need of the inhabitants, and typhoid fever has prevailed to a considerable extent. An examination of general sanitary conditions was made, and samples were collected from representative wells. These waters, in every instance, were found to be unsafe and in most cases showed the effects of gross pollution. It was recommended to the county health officer that the matter of extending the public water supply of Annapolis to Eastport be taken up with the water company.

Preliminary surveys were made for a sewerage system, but it was soon found that this was a matter to be taken up in conjunction with Annapolis, consequently nothing further was done. Annapolis will soon find it necessary to make sewerage improvements to relieve the pollution of its harbor and at that time the Eastport situation can be much better studied.

*Germantown*—Germantown is an unincorporated community of about 600 inhabitants, situated at the western boundary of Annapolis. It is closely built up along Camp Parole and Spa Roads. Water is obtained from the Annapolis water supply, but there are a few private wells in use. Sewage is disposed of in privies and cesspools. Drainage from houses is discharged into the street gutters and in certain portions of the town extremely offensive conditions are created.

A study was made for sewers, and a preliminary plan was drawn up providing for a system to take care of the congested portion of the community. It was proposed that the sewage be pumped to an existing sewer of the Annapolis system. It was estimated that the cost would be about \$9,400.

#### CHARLES COUNTY.

*Indianhead*—Indianhead is an unincorporated community on the Potomac River in the northwestern part of Charles County. It adjoins the United States Naval Proving Station where 700 or 800 men are employed. A sanitary survey, made as a result of a typhoid fever epidemic, showed that the methods of water supply and sewage disposal in use were such as to be a grave menace to the community. The water supplies are, in most cases, derived from comparatively shallow wells, many of which are close to polluting sources. The principal means of sewage

disposal is the surface privy. Undoubtedly the spread of typhoid fever due to these conditions has been considerable. Some improvement has been secured by the installation of a few sanitary privies, but no material nor permanent relief is to be expected until proper water supply and sewerage systems are installed. As the community is unincorporated, work of this character must be under the direction of the County Commissioners.

## Clerical Report and Financial Statement

WALTER N. KIRKMAN, Chief Clerk.

### CLERICAL REPORT.

Number of letters written (regular correspondence).....	19,451
Number of letters received.....	14,340
Number of multigraphed sheets (including 522 forms, 234 electros).....	576,910
Number of paper folds on folding machine.....	32,300
Number of pages typewritten for reports.....	9,493
Number of birth certificates filed.....	19,065
Number of death certificates filed.....	11,809
Number of second-class packages sent out.....	3,654
Miscellaneous reports sent out.....	13,841
Reports sent to physicians.....	3,866
Disinfection sheets.....	446
Number of certificates of qualification issued to midwives.....	191
Number of certificates of registration issued to midwives.....	112
Certified copies of death issued.....	153
Certified copies of birth issued (including 673 searches).....	16
Circular letters sent out.....	17,440
Receipts sent out for duplicate portion of transit permits.....	1,798
Number of vouchers sent to registrars.....	1,424
Number of cards written for cross index.....	55,899
Number of cards numbered for files.....	960

### DISTRIBUTION OF TUBERCULOSIS PROPHYLACTIC SUPPLIES.

<i>Materials.</i>	<i>To Institutions</i>			<i>Total.</i>
	<i>To Sub-Stations.</i>	<i>Individuals.</i>	<i>Balto. City Health Dept., etc.</i>	
Sputum Cup Fillers.....	115,000	29,425	376,700	521,125
Sputum Cup Holders.....	1,150	232	2,232	3,614
Napkins. . . . .	230,000	58,400	1,440,700	1,729,100
Disinfectant ( $\frac{1}{2}$ pt. bottles). . . . .	1,150	356	11,522	13,028
Waterproof pockets . . . . .	2,300	456	147	2,903
Books of Information....	1,150	219	89	1,458

The following is a statement of the receipts and expenditures of the Department for the period, May 1st to December 31st. This period and not the calendar year is under review in this statement because, starting with May 1st, 1914, the State Board of Health instituted the Budget System in the Department and the general scheme of expenditure classification was revised.

On the statement the receipts are classified according to the names of the appropriations and the disbursements by Bureaus according to the object of expenditure.

The accounts of the Department have been audited monthly by the Executive Committee of the State Board of Health.



FINANCIAL STATEMENT FOR THE PERIOD MAY 1 TO DEC. 31, 1914.

RECEIPTS.





## Prosecutions—Bureau of Vital Statistics.

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Dr. Wm. D. Corse, Gardenville, Baltimore County, Md.—For refusal or neglect to report the birth of the infant of Mrs. John J. Kahler, who was born July 3, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Mary Goldschmidt, 3503 E. Baltimore St., Highlandtown, Baltimore County, Md.—For refusal or neglect to report to the health officer or some legally qualified physician the appearance of red, inflamed or swollen eyes of the infant of Mrs. Charles Zulauf, on or about February 20, 1914. She defended herself, but upon evidence brought by this Department was fined \$5.00 and costs.

Katherine Harris, O'Donnell St., Highlandtown, Baltimore County, Md.—For refusal or neglect to report the birth of the infant of Mrs. George Bangert, who was born September 7, 1914. Defendant found guilty and fined \$5.00 and costs.

Dr. Alvin B. Lennan, 720 Patterson Park Ave., Baltimore, Md.—For refusal or neglect to report the birth of the infant of Mrs. Frances Marion Shane, who was born September 23, 1914, in Baltimore County, Md. Defendant was fined \$5.00 and costs.

Dr. J. H. Preston, Hampstead, Carroll County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Alan Cofiel, who was born March 16, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Mrs. Wm. Raichert, Fullerton, Baltimore County, Md.—For refusal or neglect to report the birth of the infant of Mrs. J. L. Zimmerman, who was born July 30, 1914. Trial before J. T. Hopkins, J. P., at Towson. Case dismissed. Defendant did not attend patient.

Mrs. Wm. Raichert, Fullerton, Baltimore County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Henry Coster, who was born July 23, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Mrs. Kate Lear, 1724 Byrd St., Baltimore, Md.—For making a vaginal examination of Mrs. Connor on June 1, 1914, in Baltimore City. Defendant plead guilty and was fined \$5.00 and costs.

Hennie Camper, Williamsburg, Caroline County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Elbert Wright, who was born December 19, 1913. Defendant plead guilty and was fined \$5.00 and costs.

Dr. J. R. Downes vs. Hennie Camper—For refusal or neglect to report birth of the infant of Mrs. Gorman Bailey. Defendant plead "not guilty." Found guilty. Sentence suspended pending future compliance with law.

Dr. J. R. Downes vs. Mary C. Murray—Defendant fined \$5.00 and costs.

Dr. J. R. Smith, Templeville, Caroline County, Md.—For refusal or neglect to report the birth of the infant of Mrs. James Jones, who was born June 27, 1913. Defendant plead guilty and was fined \$5.00.

Dr. J. R. Smith, Templeville, Caroline County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Herman Hackett, who was born May 29, 1913. Case setted.

Dr. J. R. Smith, Templeville, Caroline County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Herbert Daniels, who was born about July 28, 1913. Case stetted.

Dr. J. R. Smith, Templeville, Caroline County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Samuel Jones, who was born October 10, 1913. Case stetted.

Eugene Hall, Dynard P. O., St. Mary's County, Md.—For interring the body of Wm. Lyon on March 13, 1914, in Charles County without obtaining the proper permit. Case dismissed. Certain circumstances making the action justifiable in the judgment of the magistrate.

Dr. E. L. Jones, East New Market, Dorchester County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Thos. Gambrell, who was born January 22, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Dr. E. L. Jones, East New Market, Dorchester County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Howard Blake, who was born January 4, 1914. Case stetted.

Dr. E. L. Jones, East New Market, Dorchester County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Earl Dermott, who was born January 25, 1914. Case stetted.

Dr. E. L. Jones, East New Market, Dorchester County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Ernest Wielding. Case stetted.

Grace Lake, Hurlock, Dorchester County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Biard Dolby, who was born March 30, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Sallie Paine, Brookview, Dorchester County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Wm. L. English, who was born February 5, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Sallie Paine, Brookview, Dorchester County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Geo. Venable, who was born May 1, 1914. Case stetted.

Dr. Chas. A. Hollingsworth, Belair, Harford County, Md.—For refusal or neglect to report the birth of the infant of Mrs. D. J. Stone, who was born July 20, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Dr. Chas. A. Hollingsworth, Belair, Harford County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Herbert Hoopes, who was born September 26, 1914. Case stetted.

Mary Prettyman, Lisbon, Howard County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Rufus Biggers, who was born July 7, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Laura Boose, Grifton, Montgomery County, Md.—For refusal or neglect to report the birth of the infant of Gertie Brown, who was born June 18, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Sarah Jackson, Sandy Spring, Montgomery County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Sarah Pumphrey, who was born April 15, 1914. Defendant plead guilty and was fined \$5.00 and costs.

Dr. T. W. Byerly, Laurel, Prince George's County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Fred. Seal, who was born May 3, 1913. Defendant plead guilty and was fined \$5.00 and costs.

Dr. T. W. Byerly, Laurel, Prince George's County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Samuel Manstoff, who was born April 6, 1913. Defendant plead guilty and was fined \$5.00 and costs.

Dr. T. W. Byerly, Laurel, Prince George's County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Robt. Lee Fairall, who was born April 7, 1913. Defendant plead guilty and was fined \$5.00 and costs.

Mr. Fladung, Collington, Prince George's County, Md.—For interring the body of Mamie Harden on January 6, 1914, without first obtaining the proper permit. Fined \$20.00 and costs.

Jos. L. Pippin & Son, Marydel, Caroline County, Md.—For interring the body of Chas. H. Bridles on September 30, 1913, in Queen Anne's County without first obtaining the proper permits. Defendant plead guilty and was fined \$20.00 and costs.

Dr. P. L. Travers, Easton, Talbot County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Claud Lee, who was born June 30, 1914. Fined \$5.00 and costs.

Dr. P. L. Travers, Easton, Talbot County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Emory Ross, who was born March 18, 1914. Case stetted.

Dr. P. L. Travers, Easton, Talbot County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Mason Shehan, who was born June 1, 1914. Case stetted.

Dr. P. L. Travers, Easton, Talbot County, Md.—For refusal or neglect to report the birth of the infant of Mrs. H. E. Clark, who was born July 8, 1914. Case stetted.

C. G. Messick, Bivalve, Wicomico County, Md.—For interring the body of Anne Elizabeth Douglas on May 21, 1914. Defendant plead guilty and was fined \$20.00 and costs.

Dr. Norris Pilchard, Salisbury, Wicomico County, Md.—For refusal or neglect to report the birth of the infant of Mrs. Raymond McClain, who was born July 29, 1914. Plead guilty and was fined \$5.00 and costs.







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